

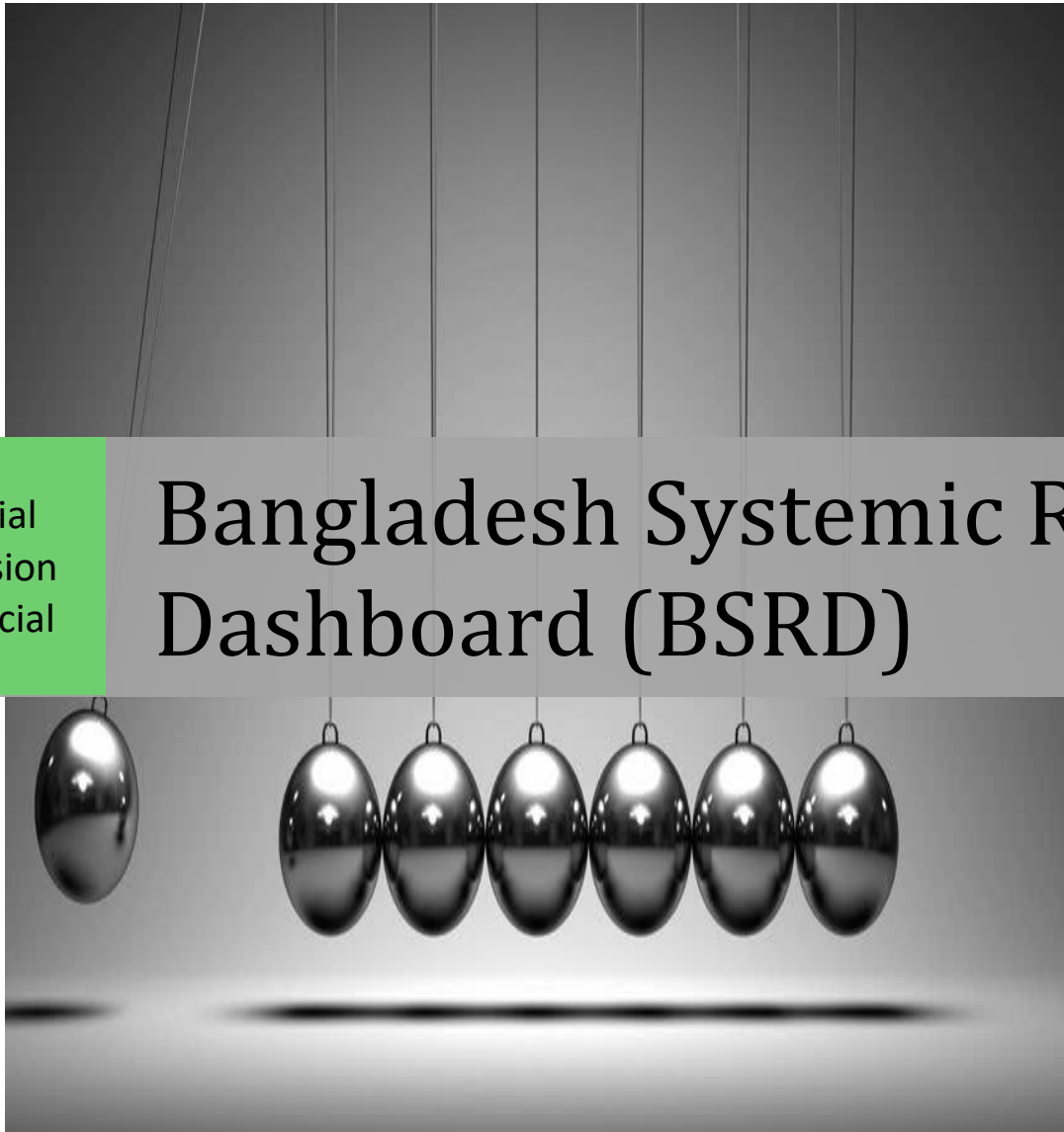
BANGLADESH BANK

Central Bank of Bangladesh



Macro
Prudential
Supervision
of Financial
System

Bangladesh Systemic Risk Dashboard (BSRD)



Financial Stability Department
December 2020

DISCLAIMER: The risk dashboard is a set of quantitative indicators and not an early-warning system. The indicators should not be treated as the basis for any mechanical form of inference.

Bangladesh Systemic Risk Dashboard (BSRD)

December 2020

Advisor

Abu Farah Md. Nasser
Deputy Governor

Coordinator

Md. Shahidul Islam
Executive Director

Editor

Md. Kabir Ahmed, PhD
General Manager

Co-editors

1. Mohammad Zahir Hussain, Deputy General Manager
2. Abdullah-Hil-Baki, Joint Director
3. Md. Harun Or Rashid, Deputy Director

Data Support

1. Banking Regulation and Policy Department
2. Debt Management Department
3. Department of Financial Institutions and Markets
4. Department of Off-site Supervision
5. Statistics Department

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- This dashboard is based on data and information available as of December, 2020, unless stated otherwise.
 - This dashboard can be accessed through internet at <https://www.bb.org.bd/en/index.php/publication/publicity/1/70>

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List of acronyms

ADR	Advance-to-Deposit Ratio
BB	Bangladesh Bank
BRPD	Banking Regulation and Policy Department
DFIM	Department of Financial Institutions and Markets
DMD	Debt Management Department
DOS	Department of Off-site Supervision
DSE	Dhaka Stock Exchange
DSEX	DSE Broad Index
FCBs	Foreign Commercial Banks
FIs	Financial Institutions
FSD	Financial Stability Department
FY	Fiscal Year
GDP	Gross Domestic Product
IMF	International Monetary Fund
NBDC	Non-bank Depository Corporation
NFCs	Non-financial Corporations
NII	Net Interest Income
NPL	Non-performing Loan
PCBs	Private Commercial Banks
P/E ratio	Price/Earnings Ratio
ROA	Return on Assets
ROE	Return on Equity
RWA	Risk-weighted Assets
SCBs	State-owned Commercial Banks
SBs	Specialized Banks
T-bill	Treasury Bill
T-bond	Treasury Bond
TOI	Total Operating Income
Y-OY	Year-on-year

Bangladesh Systemic Risk Dashboard: An Overview

1. Macro risk

In the fiscal year 2019-20 (FY20), real GDP growth rate was recorded at 5.2 percent (indicator 1.1) which was 8.15 percent in FY19. Current account balance-to-GDP ratio (indicator 1.2) turned into positive territory during second half of 2020, mainly due to significant increase of workers' remittances and low trade deficit.

Aggregate debt-to-GDP ratio (indicator 1.3) increased slightly in FY20 compared to that of FY19 though nonfinancial corporation (NFC) and household debt, as percentage of GDP, decreased marginally during the period. During the same period, government debt-to-GDP ratio (indicator 1.4) increased. However, the estimated government deficit-to-GDP ratio (indicator 1.5) for FY20 slightly decreased from the position of the previous fiscal year.

Financial burden of households, measured by household debt-to-gross disposable national income ratio (indicator 1.6), increased during the second half of 2020 compared to the first half of FY20, but recorded a decrease when compared to the corresponding period of FY19. A similar trend was observed in Non-Financial Corporation (NFC) debt-to-GDP ratio (indicator 1.7) during the review period.

2. Credit risk

Credit growth to households by banks (indicator 2.1) recorded a slight increase and non-bank depository corporations (NBDCs) (indicator 2.2) decreased and turned negative at end-December 2020 compared to the preceding period. Credit growth to NFCs by banks (indicator 2.3) decreased slightly while the same by NBDCs (indicator 2.4) decreased further and turned negative at the end of December 2020 compared to the positions of the preceding period.

At the end of December 2020, provision maintenance ratio (indicator 2.5) of banks recorded a sharp increase and reached around 100 percent while provision maintenance ratio of financial institutions (FIs)¹ (indicator 2.6) registered a moderate increase compared to those of end-June 2020.

In terms of changes in banks' interest rates for housing loans (indicator 2.7), after netting off the impacts of easing, no tightening or easing were observed at the end of December 2020.

3. Funding and liquidity risk

During the review period, liquidity support provided to banks by Bangladesh Bank in the form of repo and assured liquidity support (ALS) decreased sharply compared to those of the preceding period while special repo operation was not exercised at end-December 2020 (indicator 3.1). These liquidity supports against treasury bills and bonds were taken by banks to meet up their occasional demands. Led by a high

¹ In few cases due to NBDCs' data unavailability, data of FIs, which constitute the majority of NBDCs, were used.

advance-to-deposit ratio (ADR) of domestic private commercial banks (PCBs), ADR of the banking industry (indicator 3.2) decreased significantly at end-December 2020 compared to end-June 2020.

Maturity profile of government's outstanding debt securities (indicator 3.3) demonstrates that investment in treasury bonds (T-bonds) with all types of residual maturity except for bond with maturity up to 2 years increased at end-December 2020 compared to those of end-June 2020. Investment in treasury bills (T-bills) with maturity of up to 91 days, over 91 and up to 182 days and more than 182 days decreased at the second half of 2020 compared to the first half of 2020. Subordinated debt (indicator 3.4), as a source of funding for banks, maintained the increasing trend at the end of the review period.

4. Market risk

Major equity indices (indicator 4.1) increased significantly at end-December 2020 compared to the position of end-June 2020 and end-December 2019. Market price/earnings (P/E) ratio (indicator 4.2) increased sharply during the review period compared to that of the preceding period.

Average call money market rate (indicator 4.3) decreased significantly at the end-December 2020 compared to the position of end-June 2020. Compared to the position of end-June 2020, scheduled banks' weighted average interest rates on both deposits and advances (indicator 4.4) decreased, but their spread increased slightly at end-December 2020. Besides, weighted average exchange rate of BDT against USD (indicator 4.5) appreciated slightly at end-December 2020 when compared with end-June 2020 and end-December 2019 position.

5. Profitability and solvency risk

Banks' profitability, measured by banks' return on equity (ROE) and return on asset (ROA) (indicators 5.1a and 5.1b) decreased slightly during July-December 2020 period compared to the position of June 2020. During the same period, cost-to-income ratio (indicator 5.1c) and net interest income to total operating income ratio (indicator 5.1d) decreased. At end-December 2020, though banks' Tier-1 capital to risk weighted assets ratio (indicator 5.2a) decreased compared to that of end-June 2020, end-December 2019 and end-June 2019, it remained well above the regulatory requirement of 6.0 percent. Banks' gross non-performing loan (NPL) ratio (indicator 5.2b) decreased considerably at the end of the review period.

FIs' profitability, measured by ROE and ROA (indicators 5.3a and 5.3b) showed an increased moderately in December 2020 compared to June 2020, but declined sharply when compared with December 2019. FIs' cost-to income ratio (indicator 5.3c) increased slightly at end-December 2020 from that of end-June 2020. Also, FIs' net interest income to total operating income ratio (indicator 5.3d) registered a moderate decrease from the position of end-June 2020.

FI's ratio of Tier-1 capital to total risk-weighted assets (indicator 5.4a) declined slightly in December 2020 compared to June 2020 and December 2019; however, it remained well above the minimum regulatory requirement. Gross NPL ratio of FI's (indicator 5.4b) increased slightly at end-December 2020 compared to end-June 2020 position and increased moderately from the position of December 2019. To

reduce defaulted loans and advances of Banks and FIs, BB should monitor them strongly and also can give advice to increase their profitability and solvency.

6. Inter-linkages

Banks' credit growth to the government (indicator 6.1) decreased significantly at end-December 2020 compared to both end-June 2020 and end-December 2019. Government borrowing from NBDCs (indicator 6.2), though was very low, decreased sharply at the end of the review period.

Banks' loan growth to both residential and commercial housing sector (indicator 6.3a and 6.3b) increased at end-December 2020 compared to preceding period. Growth of FIs' loans to housing sector (indicator 6.4) showed a gradually decreasing trend since June 2019 and recorded further negative at end-December 2020.

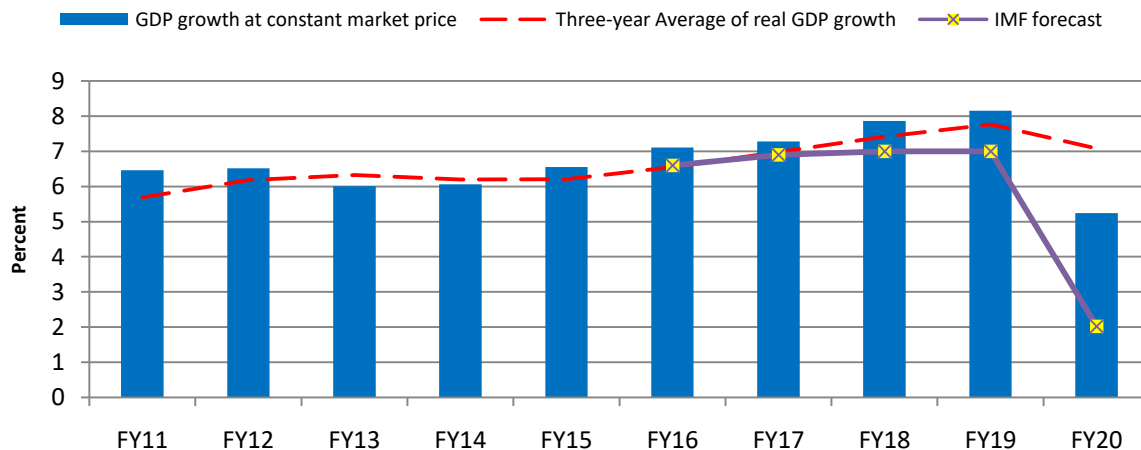
An increasing trend was observed in banks' credit exposure to its major public and private counterparts (indicator 6.5), in which NFCs accounted for the major share. NBDCs' credit exposure to its major counterparts marked a slowdown due to decline in their loans to both NFCs and households (indicator 6.6). Banks' cross-border claims (indicator 6.7), though recorded an increase, but remained less than one percent of banks' total assets at end December 2020. NBDCs' had no cross-border claims (indicator 6.8) since December 2018.

7. Structural Risk

Aggregate assets of both domestic banks (indicator 7.1a) and foreign banks (indicator 7.1b), as a percentage of nominal GDP, increased at end-December 2020 compared to those of end-June 2020 and end-December 2019. Similar trend was observed in FIs' aggregate assets to nominal GDP ratio (indicator 7.3) at the end of the review period. Leverage ratios of banks (indicators 7.2) demonstrated an upward trend over the last few years while leverage ratio of FIs (indicators 7.4) increased continuously since December 2019.

1. Macro risk

1.1 Current and forecasted real GDP growth

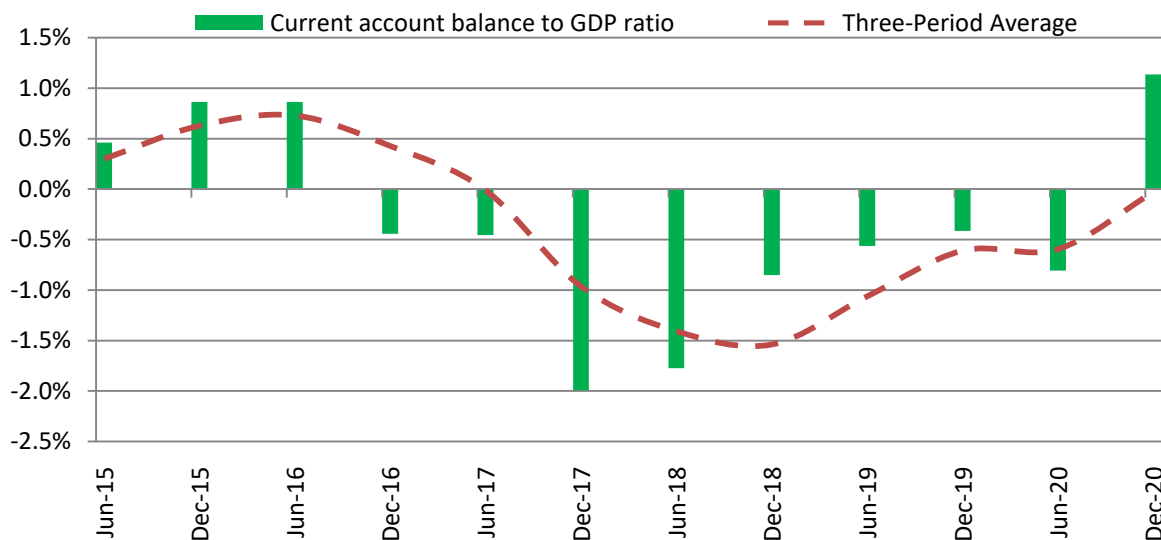


Source: Monthly Economic Trends, BB; IMF's World Economic Outlook Database, April, 2020.

Notes: As half yearly GDP is not calculated in Bangladesh, GDP growth is shown for only fiscal years.

Real GDP growth showed a declining trend in FY 2020 due to COVID-19 pandemic related slowdown in economic activities; however, the growth surpassed the IMF forecast for 2020.

1.2 Current account balance-to-GDP ratio



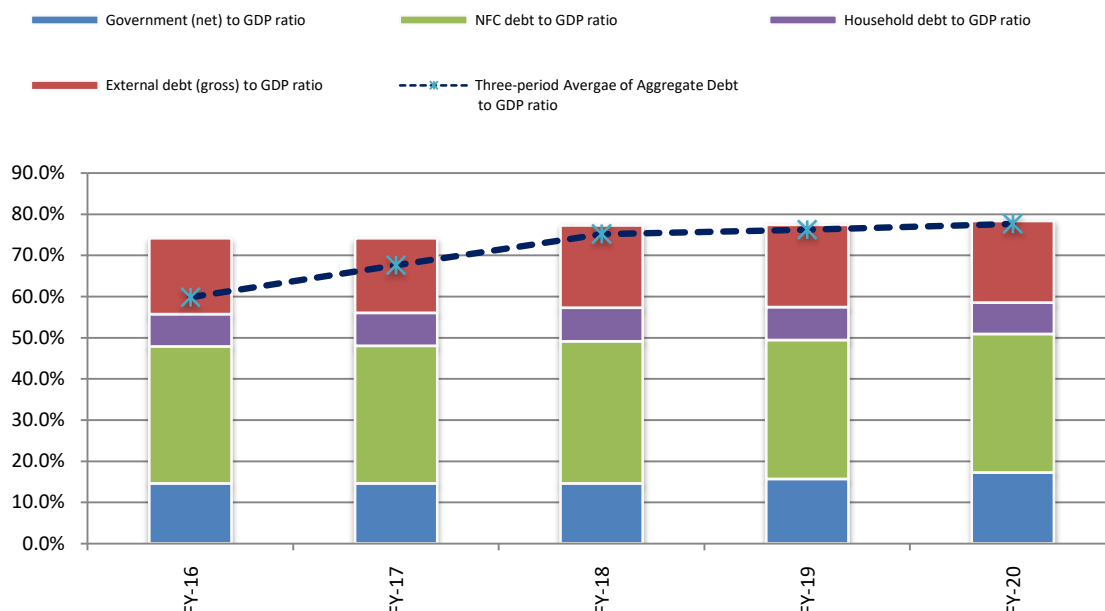
Source: Monthly Economic Trends, BB. Data of December, 2020 is provisional value.

Note: As half yearly GDP is not calculated in Bangladesh, June based GDP data is used as a proxy for December in calculating December based current account balance-to-GDP ratio.

Current account balance-to-GDP ratio turned into positive territory during second half of 2020, due to significant increase of workers' remittances and low trade deficit.

1. Macro risk-Cont'd.

1.3 Aggregate debt-to-GDP ratio

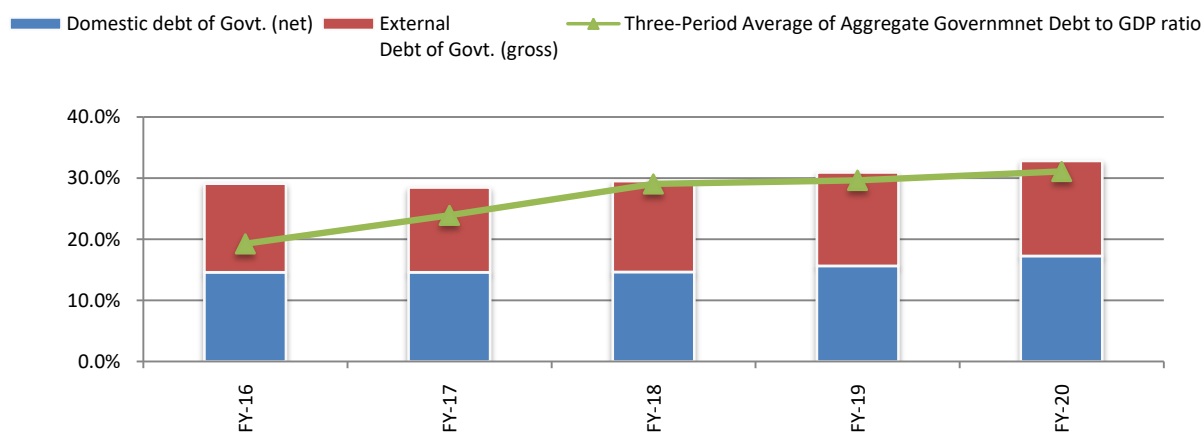


Sources: Monthly Economic Trends, BB and National Summary Data Page (NSDP), BB.

Notes: 1) Because of unavailability of half yearly data of GDP, aggregate debt-to-GDP ratio is shown only for fiscal years. 2) Aggregate debt includes both domestic and external debt position. 3) Domestic debt refers to the claims on government (net), households, and non-financial corporation (NFC) by depository corporations.

Aggregate debt-to-GDP ratio recorded a slightly increase in FY20 compared to that of FY19. Debts of non-financial corporation remained the major constituent of aggregate debt.

1.4 Government debt-to-GDP ratio



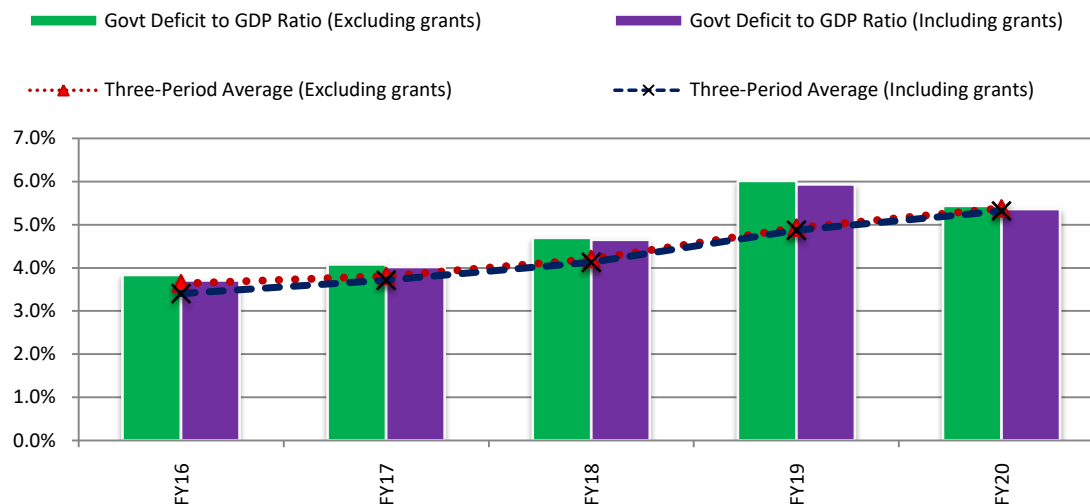
Source: Monthly Economic Trends, BB and National Summary Data Page (NSDP), BB.

Notes: Because of unavailability of half yearly data of GDP, government debt-to-GDP ratio is shown only for fiscal years.

Government debt-to-GDP ratio increased slightly in FY20 compared to that of FY19 due to higher increase in government's domestic borrowing from the banking system.

1. Macro risk-Cont'd.

1.5 Government deficit-to-GDP ratio

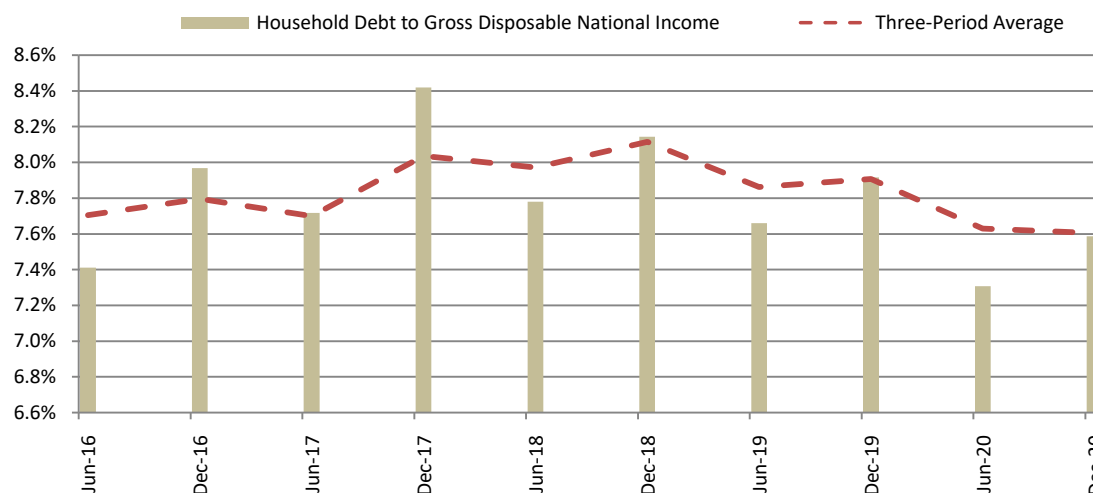


Source: Monthly Report on Fiscal Position, Ministry of Finance, Government of Bangladesh.

Notes: Because of unavailability of half yearly data of GDP, government deficit-to-GDP ratio is shown for fiscal years only.

Government deficit-to-GDP ratio, both including and excluding grants, decreased in FY20 compared to the preceding fiscal year.

1.6 Household debt-to-gross disposable national income ratio



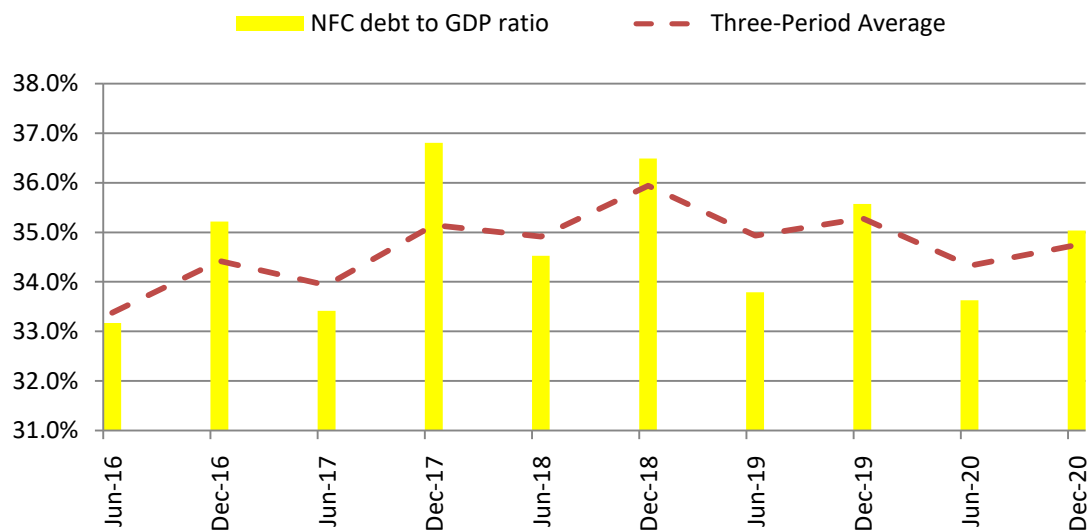
Sources: Monthly Economic Trends, BB.

Notes: As half yearly gross disposable national income is not calculated in Bangladesh, June based data of gross disposable national income is used as a proxy for December in calculating household debt-to-gross disposable national income ratio.

Household debt-to-gross disposable national income increased in December 2020 compared to June 2020. However, compared to end-December 2019, the ratio slightly decreased.

1. Macro risk-Cont'd.

1.7 Non-financial Corporation (NFC) debt-to-GDP ratio



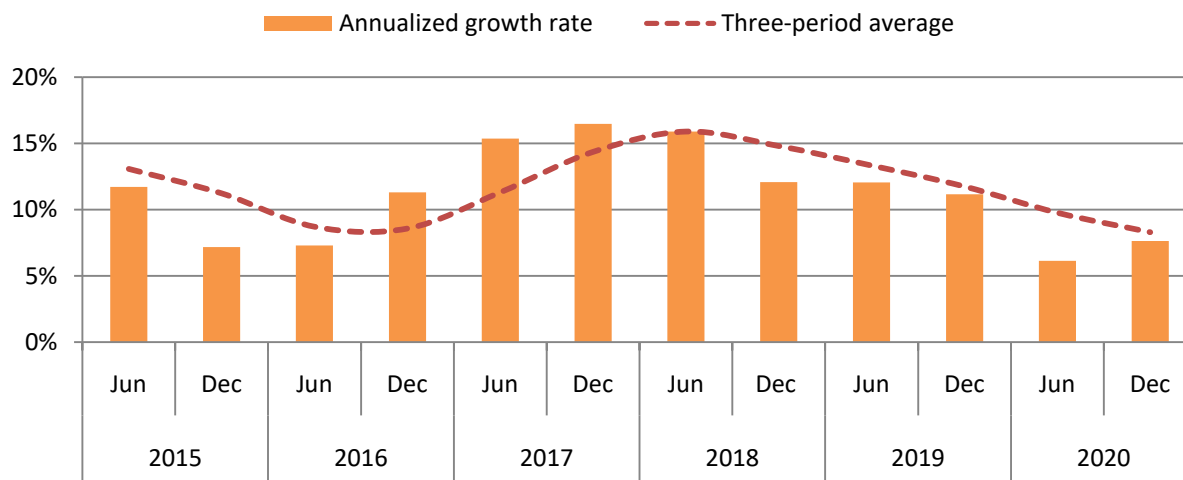
Sources: Monthly Economic Trends, BB.

Notes: 1) NFC debt includes debts of both public and private NFCs. 2) As half yearly GDP is not calculated in Bangladesh, June based GDP data is used as a proxy for December in calculating the ratio.

NFCs' debt-to-GDP ratio increased at end-December 2020 compared to June 2020 position. Private NFCs' debt comprises major portion of aggregate NFCs' debt.

2. Credit risk

2.1 Annual Growth rate of banks' loans to households

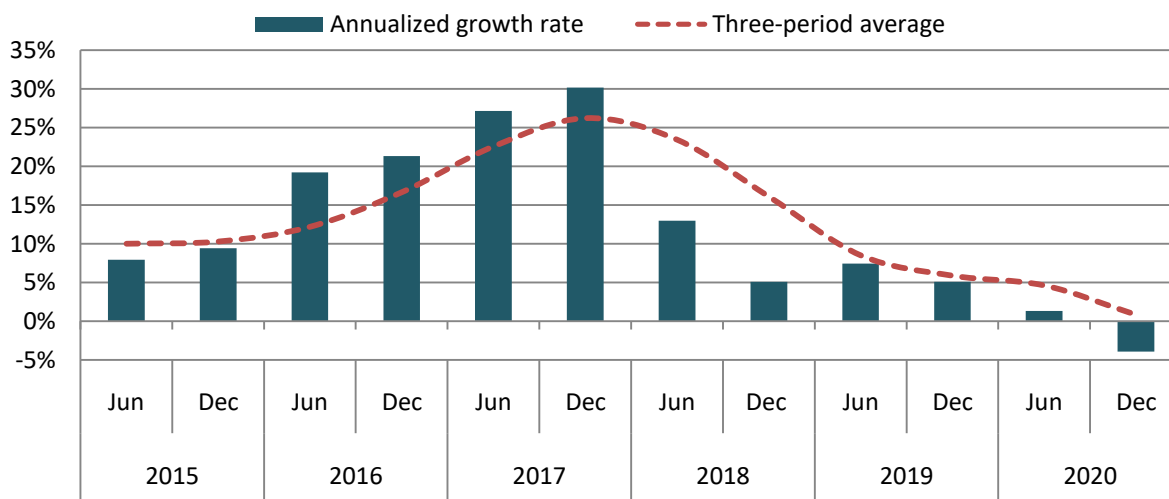


Source: Statistics Department, BB.

Notes: Loans refer to outstanding loans and advances extended to domestic households (individuals) excluding bills.

An overall downward trend in banks' credit growth to household sector is observed since December 2017; however, a slight increase was recorded at end-December 2020 compared to end-June 2020.

2.2 Annual Growth rate of NBDCs' loans to households



Source: Statistics Department, BB.

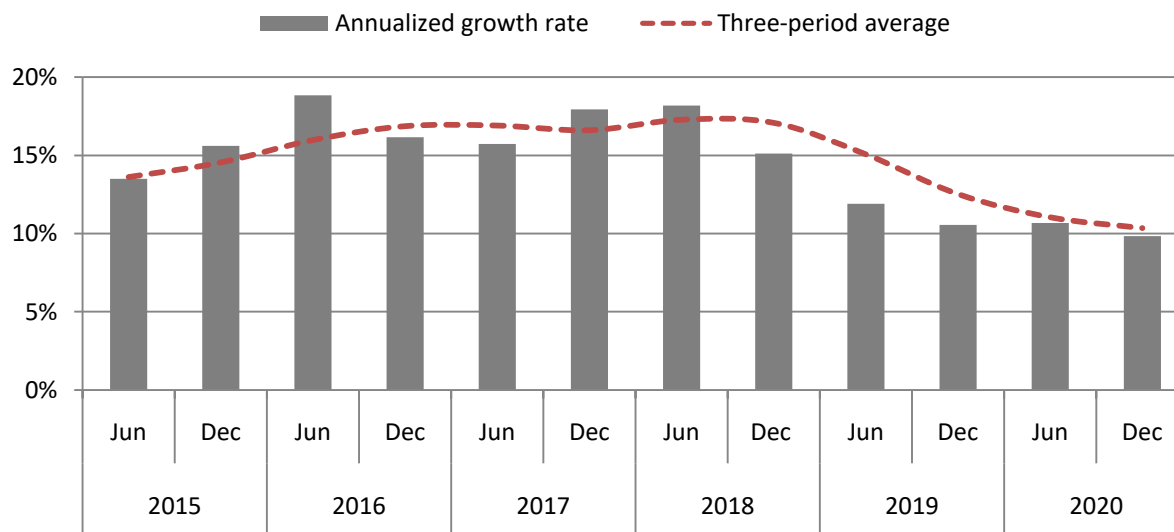
Notes: NBDCs include deposit taking FIs², Ansar-VDP Unnayan Bank, Karmasangsthan Bank, Grameen Bank and Bangladesh Samabaya Bank.

Non-bank depository corporations' (NBDC) loan growth to household sector showed a downward trend since December 2017. The growth declined further even at negative at end-December 2020 compared to that of end-June 2020.

² FIs refer to non-bank financial institutions. Out of 34 FIs, 29 are deposit taking FIs.

2. Credit risk-Cont'd.

2.3 Growth of banks' loans to private non-financial corporation (NFC)

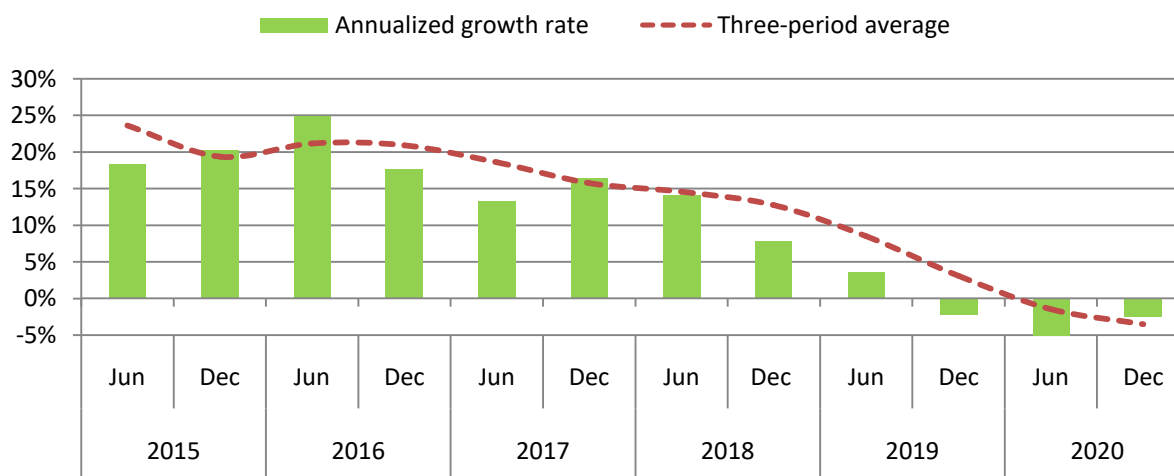


Source: Statistics Department, BB.

Notes: Loans refer to outstanding loans and advances extended to private NFCs excluding bills.

An overall downward trend in growth of private NFCs' loans was observed since June 2018. Loan growth recorded further slowdown at end-December 2020 compared to that of the preceding period.

2.4 Growth of NBDCs' loans to private non-financial corporation (NFC)



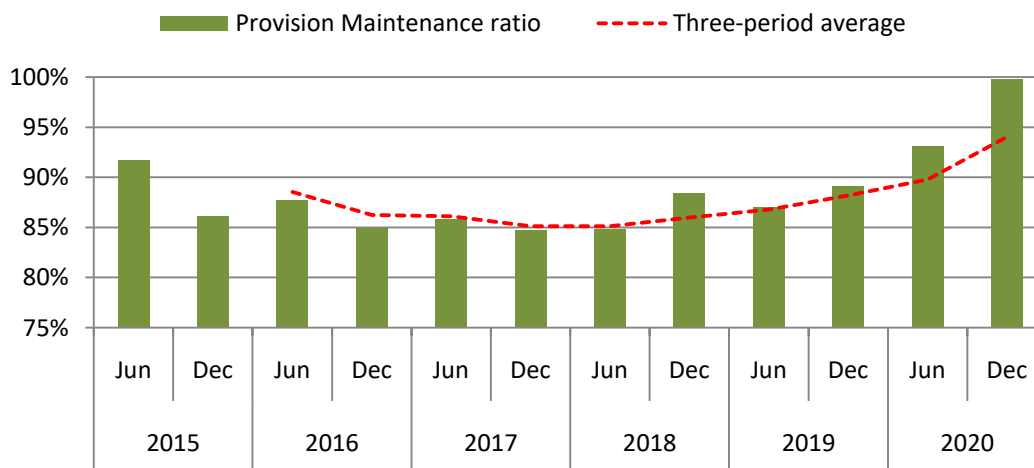
Source: Statistics Department, BB.

Notes: NFC refers to private NFCs only. NBDCs include deposit taking FIs, Ansar-VDP Unnayan Bank, Karmasangsthan Bank, Grameen Bank and Bangladesh Samabaya Bank.

NBDCs' loan growth to private NFCs showed downward trend since December 2017 and turned negative at end-December 2019. However, the growth remained negative in the last three consecutive periods.

2. Credit risk-Cont'd.

2.5 Provision maintenance ratio of banks

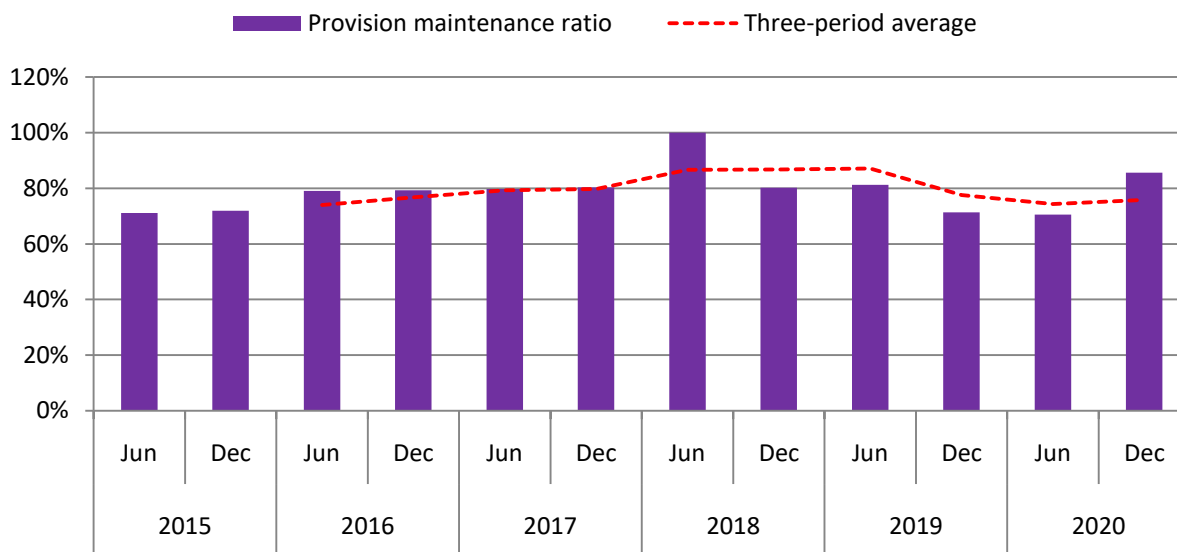


Source: BRPD, BB.

Notes: Provision maintenance ratio refers to maintained provision as a percentage of required provision.

Banks' provision maintenance ratio recorded an increase at end-December 2020 compared to that of both end-June 2020 and end-December 2019.

2.6 Provision maintenance ratio of FIs



Source: DFIM, BB.

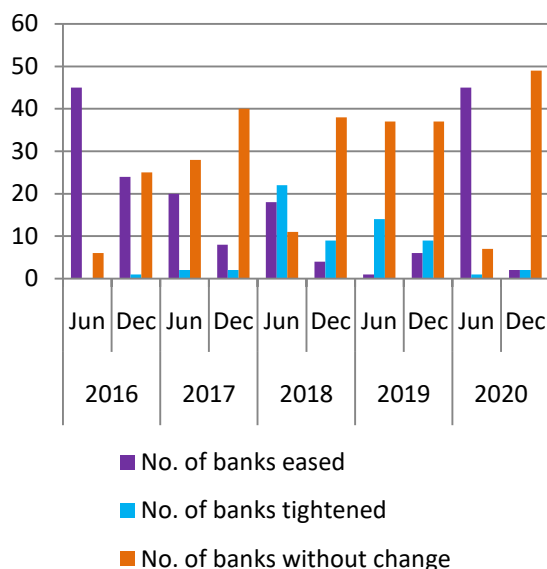
Notes: Due to NBDCs' data unavailability, data of FIs were used which include both deposit takers and non-deposit takers. Data for December 2020 is provisional.

FIs' provision maintenance ratio witnessed a moderate increase in December 2020 from that of end-June 2020 and end-December 2019.

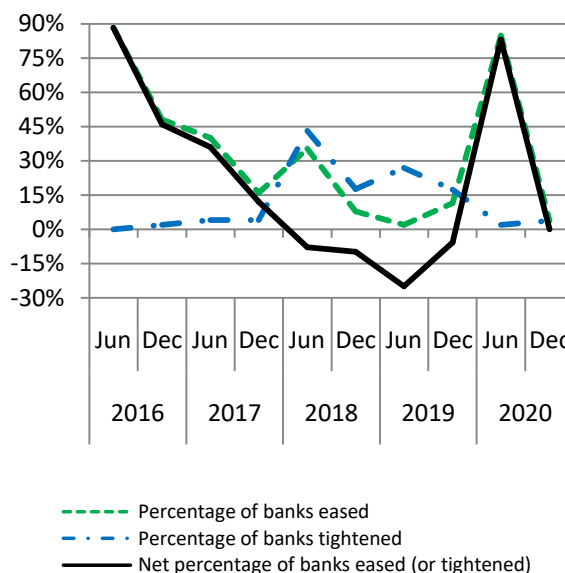
2. Credit risk–Cont'd.

2.7 Changes in banks' interest rates for housing loans

a. No. of banks having changes in their interest rates for housing loans



b. Percentage of banks having changes in their interest rates for housing loans



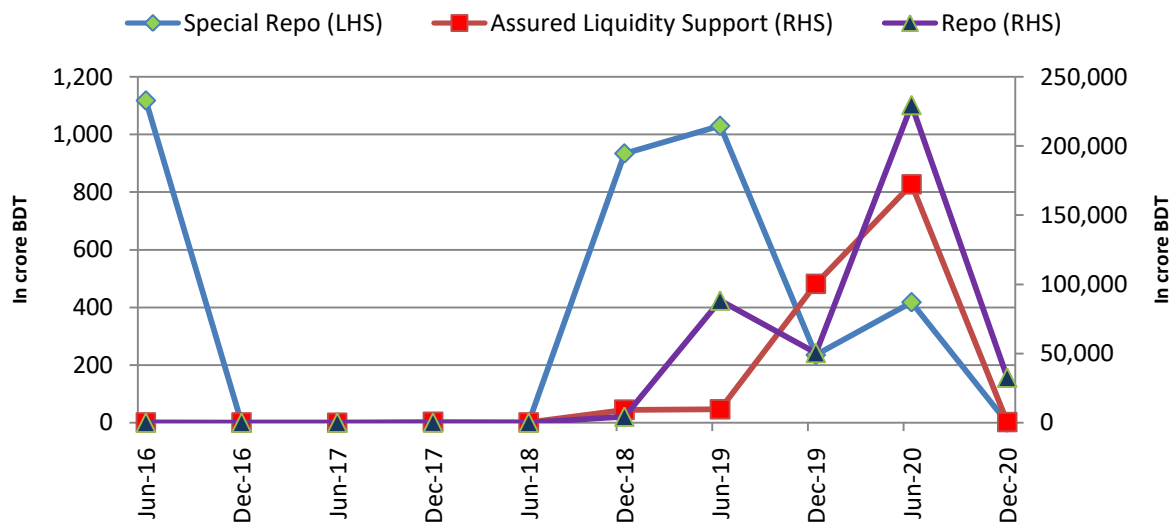
Source: Scheduled bank lending rate, Bangladesh Bank website (<https://www.bb.org.bd/fnansys/interestlending.php>).

Notes: Changes in banks' announced interest rate for housing loans have been used as a proxy for changes in banks' credit standards. Net percentage change is the difference between the share of banks reporting that interest rates have been eased (decreased) and the share of banks reporting that they have been tightened (increased). A positive net percentage change indicates that a larger proportion of banks have eased credit standards ("net easing"), whereas a negative net percentage change indicates that a larger proportion of banks have tightened credit standards ("net tightening").

In December 2020, 3.8 percent banks eased the interest rates of housing loans while 3.8 percent banks tightened the same; the remaining banks kept their rates unchanged during the same period. Hence, after netting off the impacts of easing, no tightening or easing were observed during this period.

3. Funding and liquidity risk

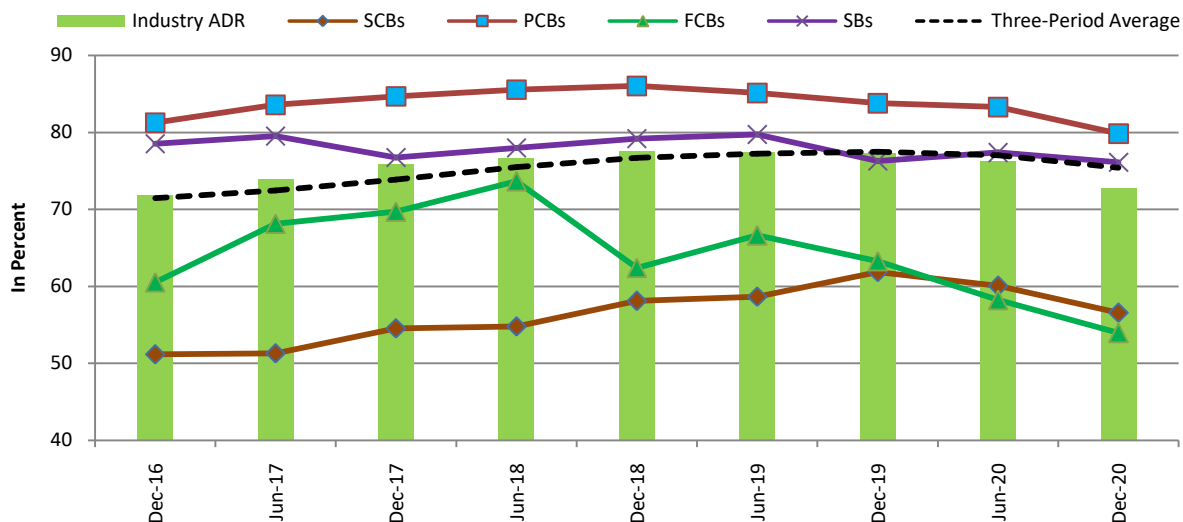
3.1 Bangladesh Bank's liquidity support to banks



Source: DMD, BB.

Assured liquidity support, special repo and repo to banks decreased significantly during the second half of 2020 compared to the preceding period as well as the corresponding period of 2019.

3.2 Banks' advance-to-deposit ratio



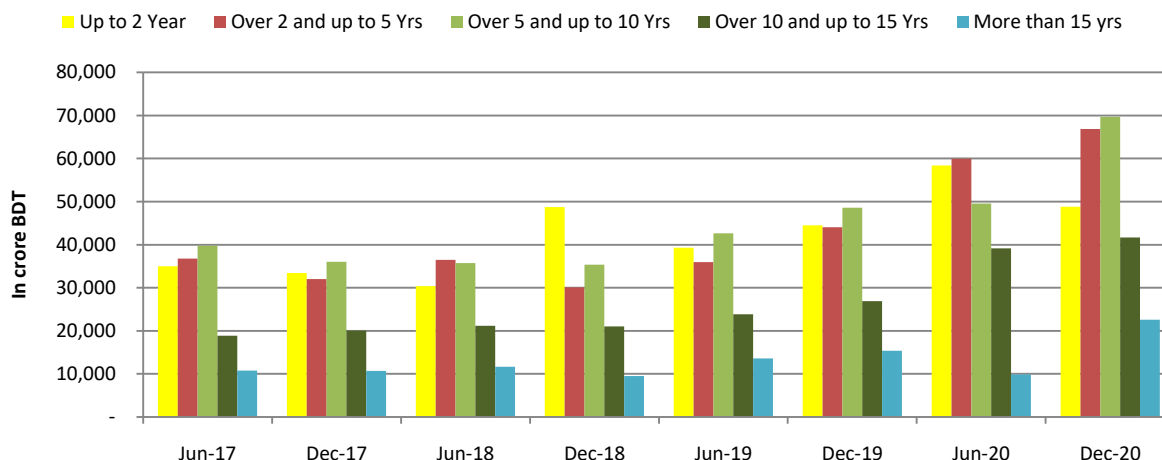
Source: DOS, BB.

Advance-to-deposit ratio (ADR) decreased sharply in December 2020 due to pandemic after remaining mostly stable over the last few years. ADRs of PCBs and SBs were significantly higher than the industry average whereas ADRs of FCBs and SCBs were lower.

3. Funding and liquidity risk-cont'd.

3.3 Maturity profile of government's outstanding debt securities

a. Treasury Bond

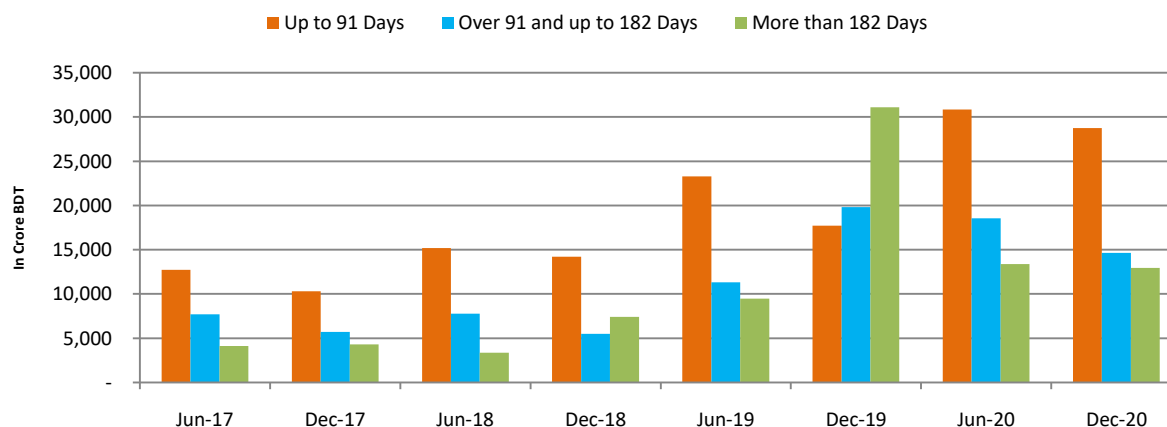


Source: DMD, BB.

Notes: The maturity profile refers to the residual maturity of long-term and short-term debt securities issued by Government of Bangladesh. Long-term debt securities include government treasury bond with a maturity of more than 12 months. Data are based on amounts outstanding at the end of the corresponding period.

Treasury bonds with remaining maturity over 5 and up to 10 years remained the largest in terms of volume whereas the ones with remaining maturity of more than 15 years remained the smallest at end December 2020. All types of treasury bonds except bond with maturity up to 2 years increased in December 2020 compared to June 2020. Besides, there were also special purpose treasury bonds (SPTB) of different maturities amounting to BDT 93,088.7 million as of end-December 2020.

b. Treasury Bill



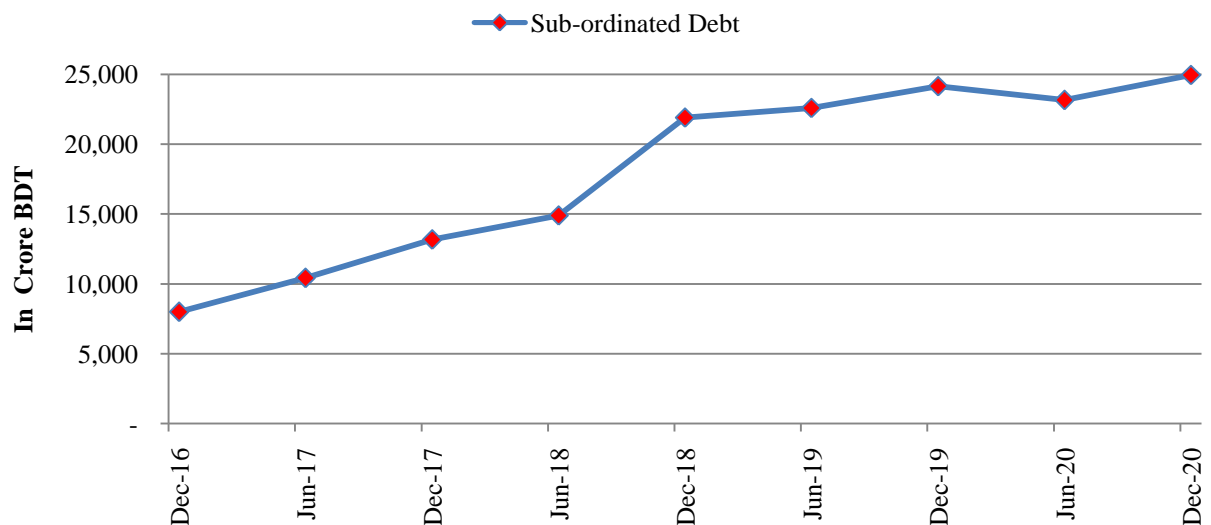
Source: DMD, BB.

Notes: Short-term debt securities include government Treasury bill with a maximum maturity of 12 months. Data are based on amounts outstanding at the end of the corresponding period.

Bank's investment in treasury bills with all types of remaining maturities decreased at end-December 2020 compared to those of June 2020.

3. Funding and liquidity risk-cont'd.

3.4 Subordinated debt



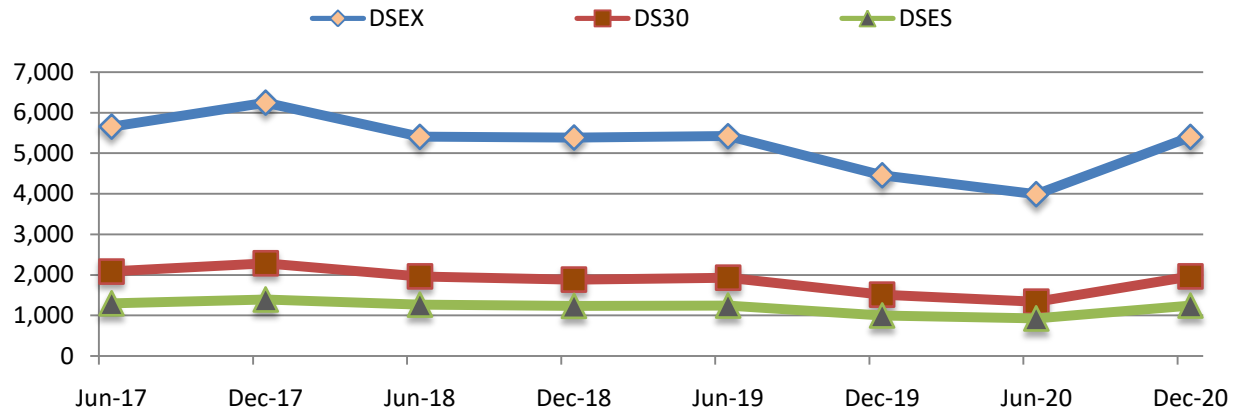
Source: DOS, BB.

Note: Subordinated debts are eligible to be included as Tier 2 Capital for calculating the regulatory capital as per BASEL III Capital Framework.

Subordinated debt, issued by banks, recorded an increasing trend since 2016 and increased slightly in December 2020 compared to June 2020. The higher subordinated debt contributes to the overall capital base of the banking sector.

4. Market risk

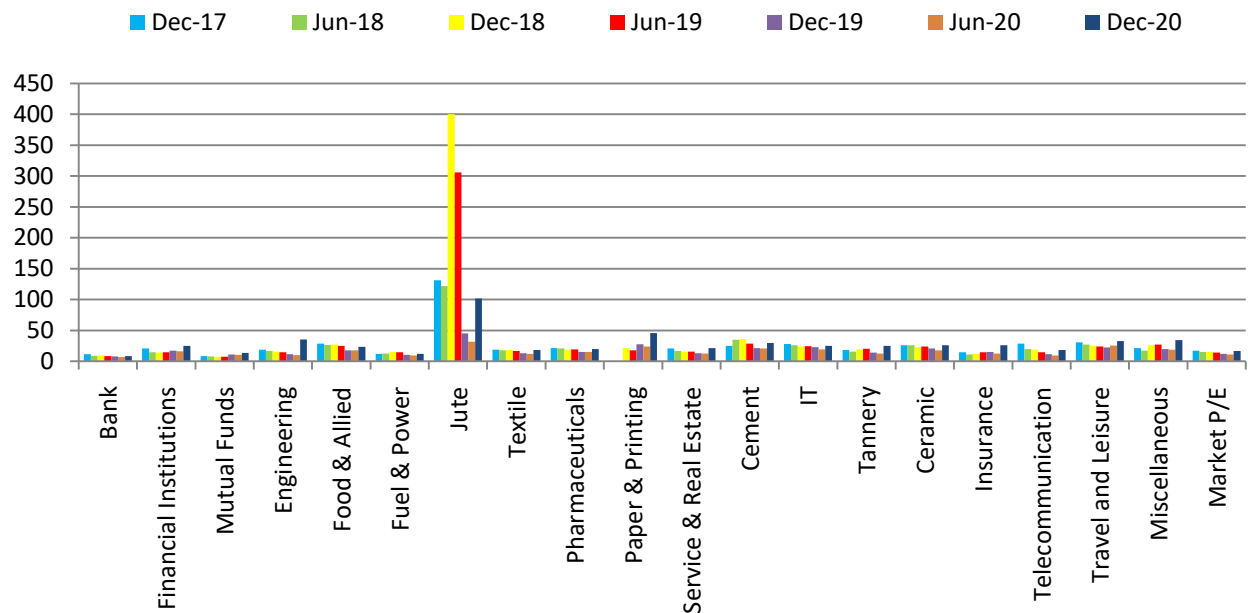
4.1 Equity indices



Source: DSE Website.

DSEX, the major DSE index, increased significantly at end-December 2020 compared to the position of end-June 2020 and end-December 2019. Following the same pattern, other equity indices DS30 and DSES also increased in the review period.

4.2 Price/earnings (P/E) ratio

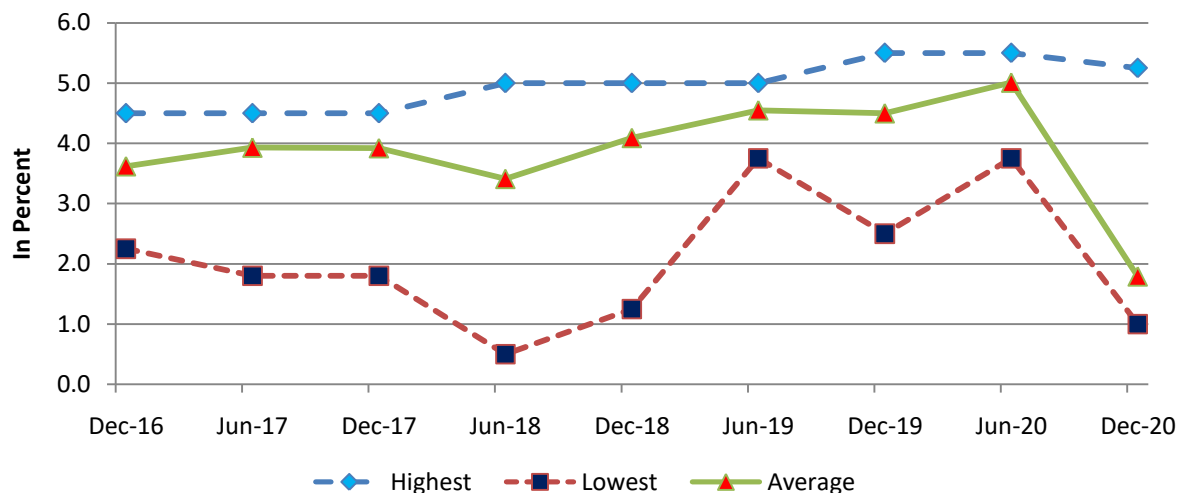


Source: DSE Website.

P/E ratio of all listed sectors increased sharply at end-December 2020 compared to end-June 2020. Market P/E ratio also maintained the same trend and stood at 16.53 at end-December 2020, which was 10.78 at end-June 2020 and 11.80 at end-December 2019.

4. Market risk-cont'd.

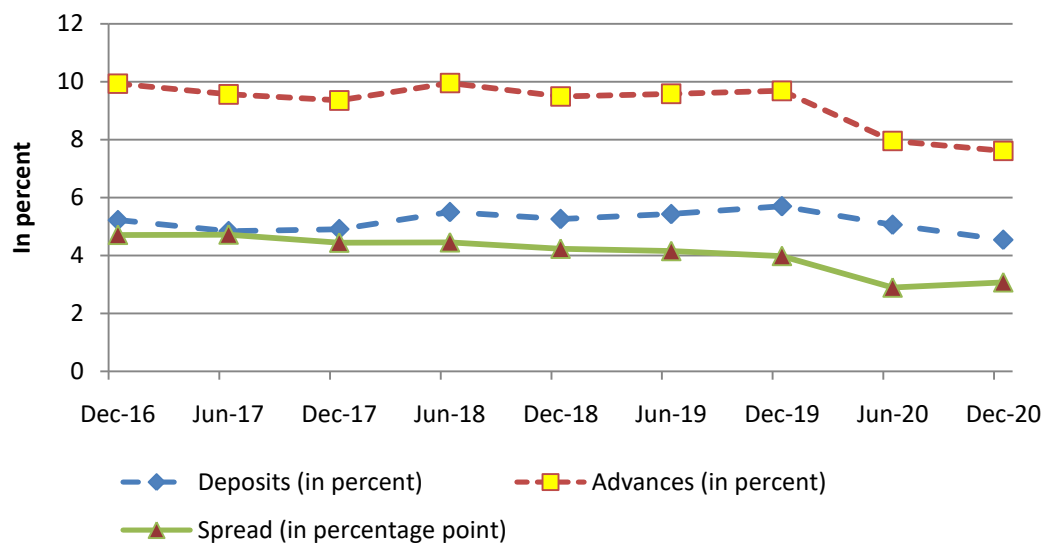
4.3 Weighted average call money market rates



Source: Monthly Economic Trends, BB.

Weighted average call money borrowing rate decreased significantly at end-December 2020 compared to that of end-June 2020.

4.4 Scheduled banks' weighted average interest rate on deposits and advances

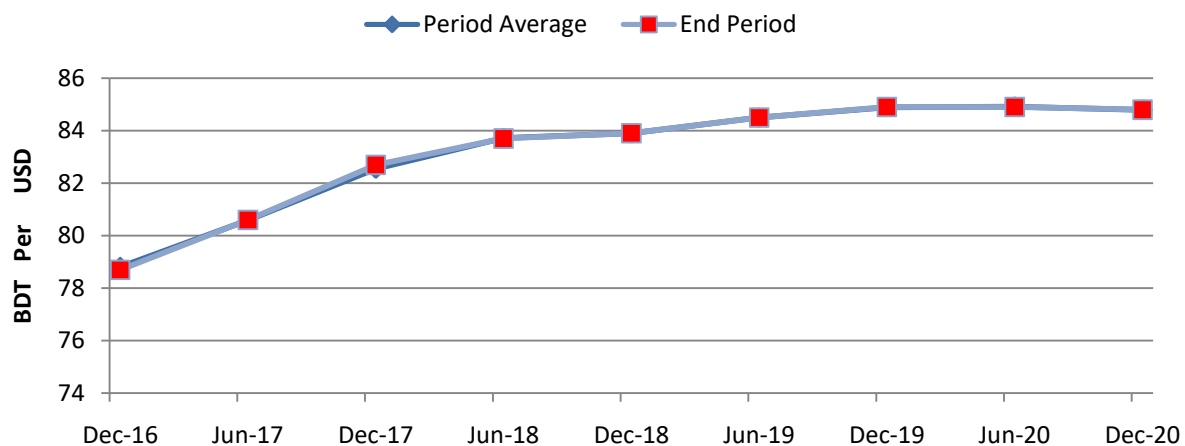


Source: Monthly Economic Trends, BB.

Weighted average interest rate on advances and deposits decreased in the second half of 2020 compared to those of end-June 2020 and end-December 2019. However, the spread increased in the review period.

4. Market risk–cont'd.

4.5 Weighted average exchange rate (BDT/USD)



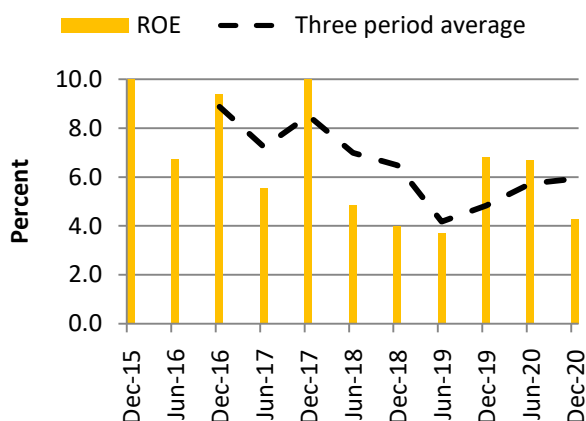
Source: Monthly Economic Trends, BB.

BDT appreciated slightly against USD at end-December 2020 compared to the position of end-June 2020 and end-December 2019.

5. Profitability and solvency risk

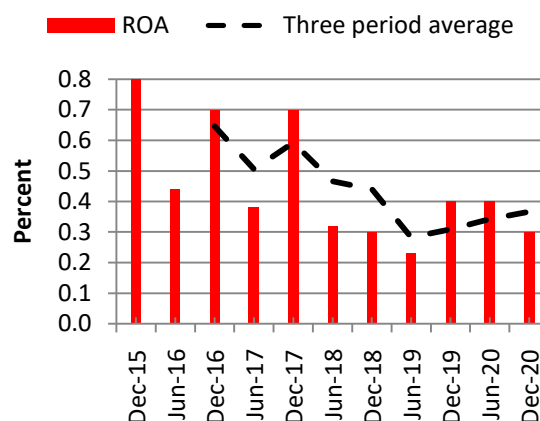
5.1 Banks' profitability indicators

a. Return on equity (ROE)



Source: DOS, BB; Computation: FSD, BB.
Note: Ratios of June period are annualized.

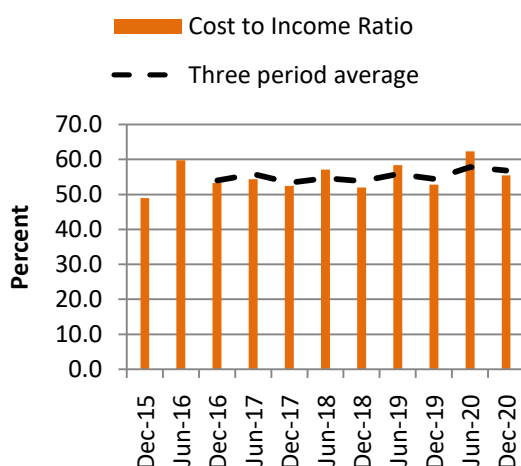
b. Return on assets (ROA)



Source: DOS, BB; Computation: FSD, BB.
Note: Ratios of June period are annualized.

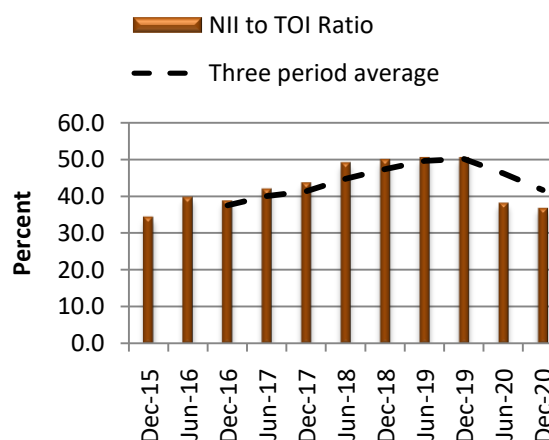
Both ROE and ROA of banks showed a slight decrease during the second half of 2020 compared to the position of first half of 2020.

c. Cost-to-income ratio



Source: DOS, BB; Computation: FSD, BB.
Note: Ratio between operating expenses and operating income.

d. Net interest income to total operating income ratio



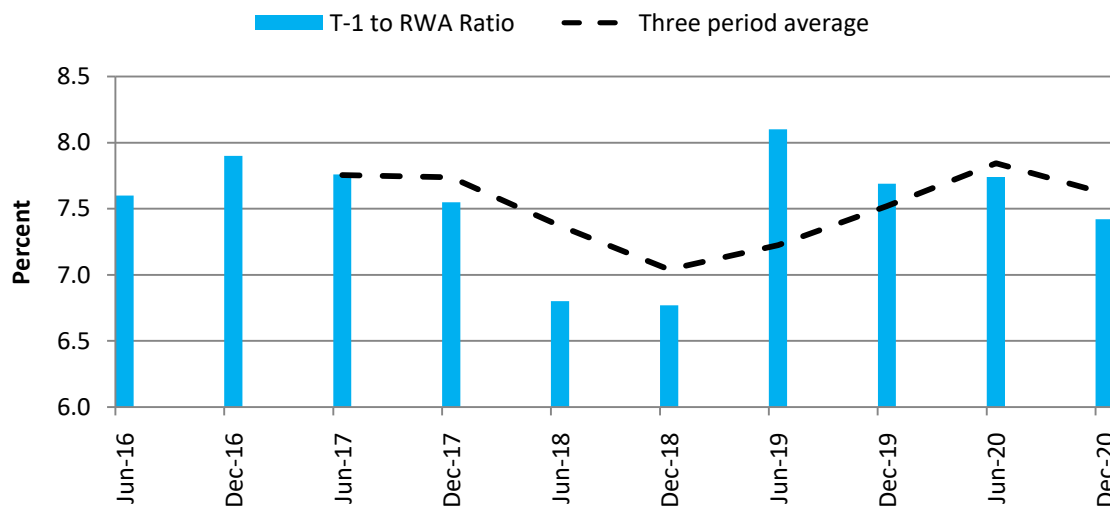
Source: DOS, BB; Computation: FSD, BB.
Note: Ratio between net interest income and total income.

Compared to the position of January-June 2020, banks' cost-to-income ratio decreased during July-December 2020. Banks' net interest income to total operating income ratio decreased during the same period.

5. Profitability and solvency risk-cont'd.

5.2 Banks' solvency indicators

a. Tier-1 to RWA ratio

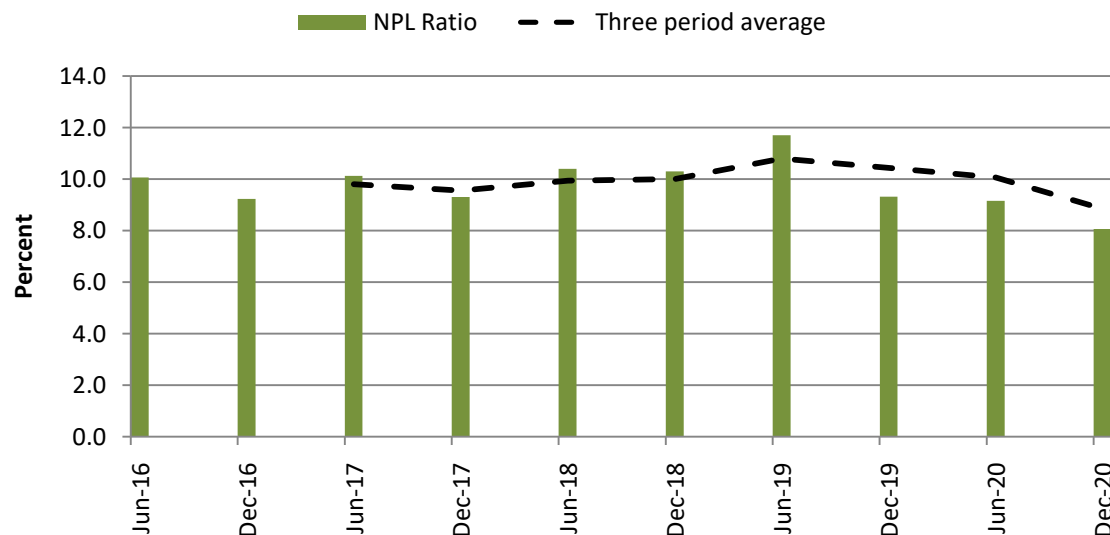


Source: DOS, BB.

Note: Ratio of Tier-1 capital to total risk-weighted assets.

Banks' Tier-1 capital ratio slightly decreased in December 2020 from the position of June 2020, but remained above the regulatory requirement of 6.0 percent.

b. Gross non-performing loan (NPL) ratio



Source: BRPD, BB.

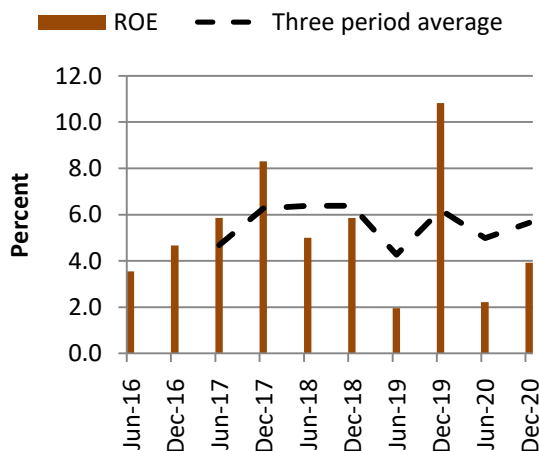
Note: Ratio of total non-performing loans & advances to total loans & advances.

The gross NPL ratio decreased considerably at end-December 2020 compared to the preceding last couple of periods.

5. Profitability and solvency risk-cont'd.

5.3 FIs' profitability indicators

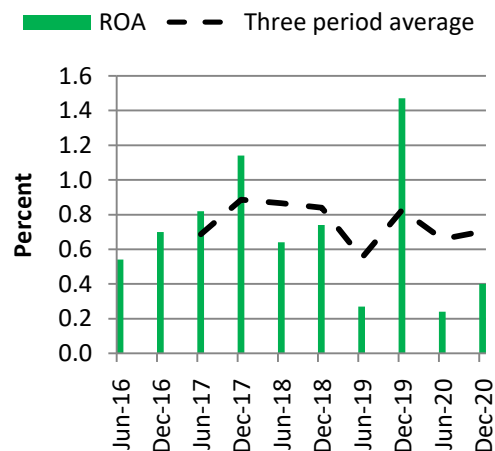
a. Return on equity (ROE)



Source: DFIM, BB.

Note: Ratios of June period are annualized. Data for December 2020 is provisional.

b. Return on assets (ROA)

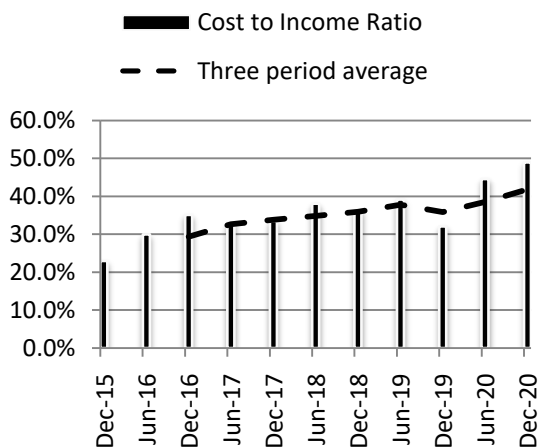


Source: DFIM, BB.

Note: Ratios of June period are annualized. Data for December 2020 is provisional.

FIs' ROE and ROA increased moderately during July-December 2020 compared to those of January-June 2020.

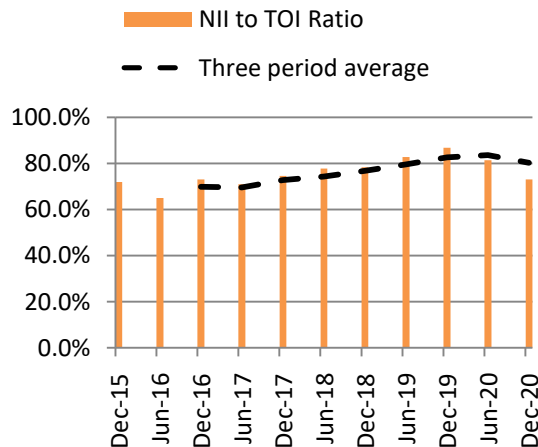
c. Cost-to-income ratio



Source: DFIM, BB.

Note: Cost to income ratio refers to ratio between operating expenses and total income. Data for December 2020 is provisional.

d. Net interest income to total operating income ratio



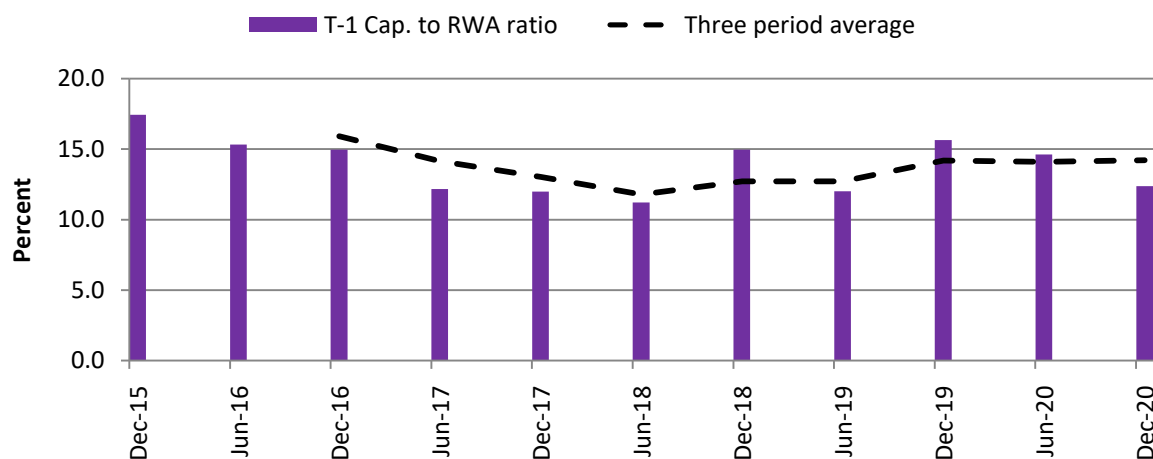
Source: DFIM, BB.

FIs' cost-to-income ratio increased slightly at end-December 2020 compared to that of the previous period. On the other hand, net interest income to total operating income ratio decreased moderately during the same period.

5. Profitability and solvency risk-cont'd.

5.4 FIs' solvency indicators

a. Tier-1 to RWA ratio

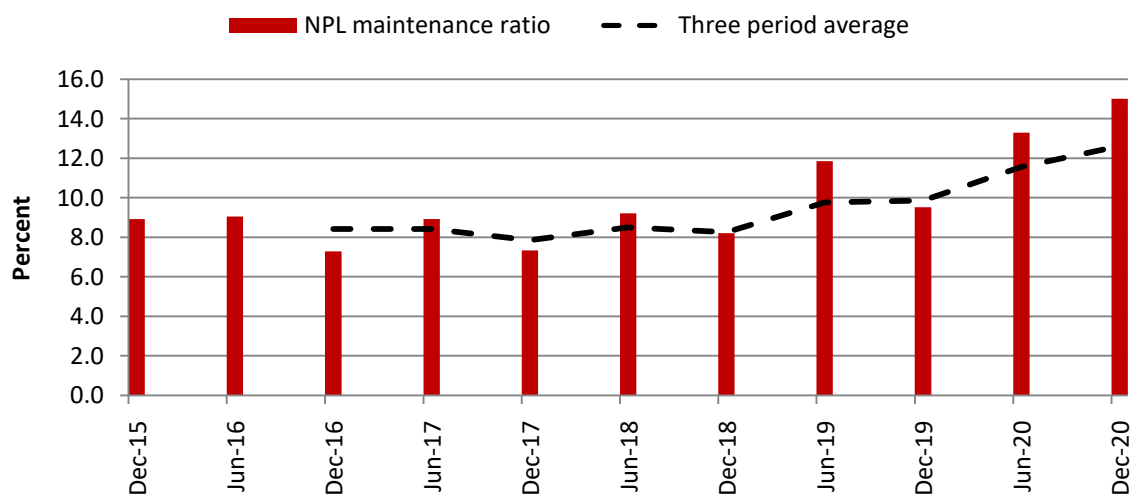


Source: DFIM, BB.

Note: Ratio of Tier-1 (core) capital to total risk-weighted assets. December 2020 data is provisional.

Though FIs' Tier-1 to RWA ratio declined in December 2020 compared to June 2020 and December 2019, but it was well above the regulatory requirement.

b. Gross non-performing loan (NPL) ratio



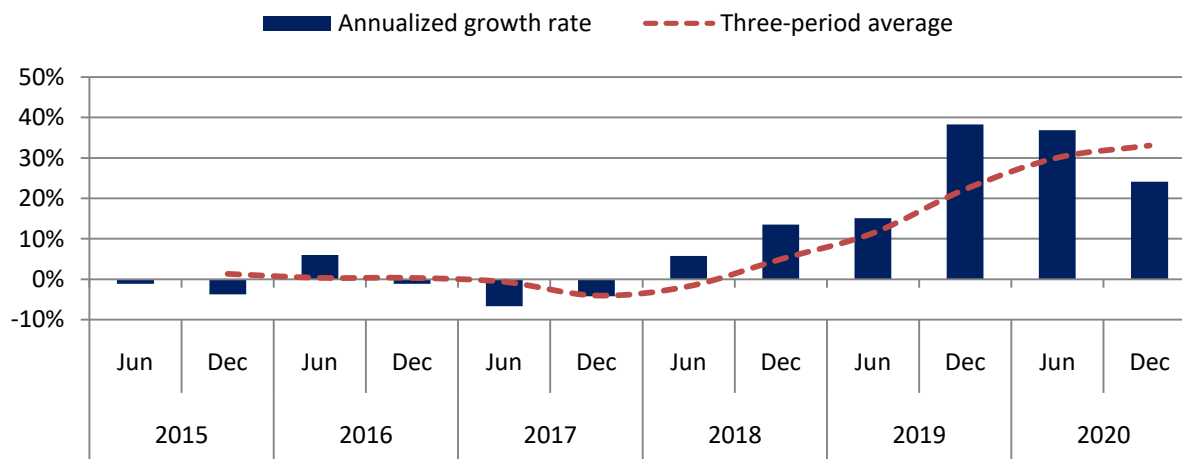
Source: DFIM, BB

Note: Ratio of non-performing loans & leases to total loans & leases. Data for December 2020 is provisional.

Gross NPL ratio of FIs increased slightly at end-December 2020 compared to end-June 2020 position and increased moderately from the position of December 2019.

6. Inter-linkages

6.1 Growth of banks' credit (gross) to government

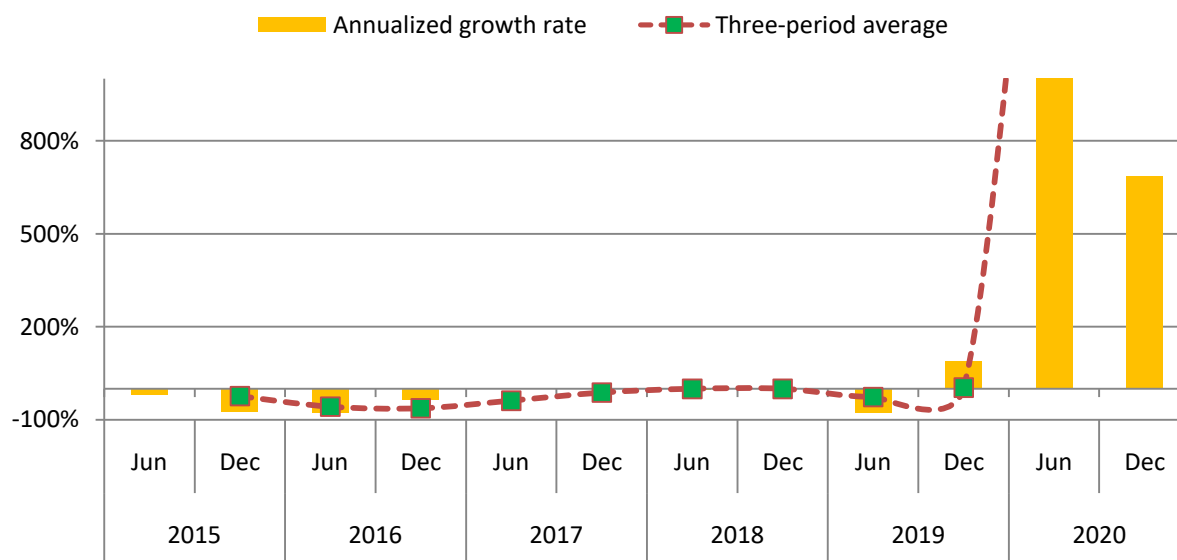


Source: Statistics Department, Bangladesh Bank.

Notes: Credit extended to the government refers to gross amount.

Government borrowings from the banking sector registered a sharp decline at end-December 2020 compared to the previous period.

6.2 Growth of NBDCs' credit (gross) to government



Source: Statistics Department, Bangladesh Bank.

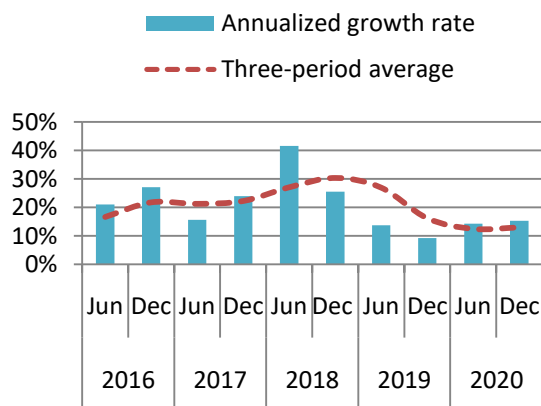
Notes: NBDCs include deposit taking FIs, Ansar-VDP Unnayan Bank, Karmasangsthan Bank, Grameen Bank and Bangladesh Samabaya Bank.

Government borrowings from the NBDCs, though remained very low compared to the same from the banking system, witnessed a sharp decline at end-December 2020 compared to the preceding period.

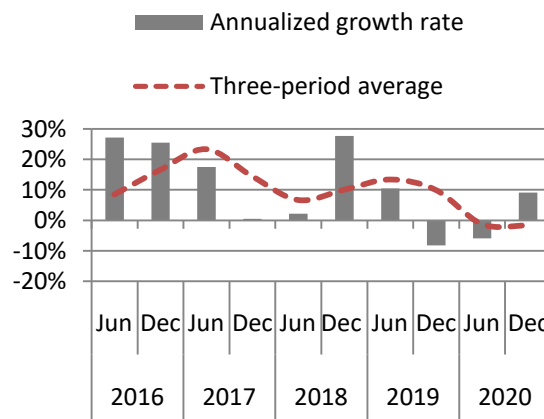
6. Inter-linkages– Cont'd.

6.3 Growth of banks' loans to housing sector

a. Loans to residential housing



b. Loans to commercial housing

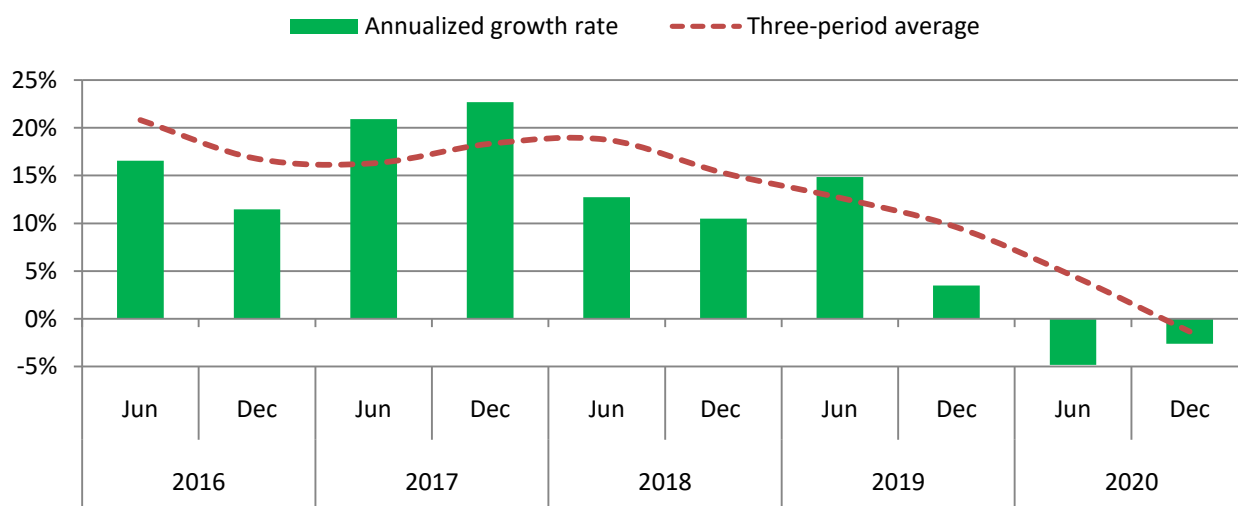


Source: Statistics Department, Bangladesh Bank.

Notes: Data for December 2020 are provisional. Loans refer to outstanding loans and advances excluding bills. Loans to residential housing refer to loans extended to domestic households for house/flat/land purchase and repair/renovation/extension. Loans to commercial housing refer to loans extended to commercial developers/contractors.

Loan growth in residential housing sector recorded marginally increase in December 2020 compared to preceding period. Loan growth in commercial housing sector, which remained volatile during the last few years, picked up in December 2020.

6.4 Growth of FIs' loans to housing sector



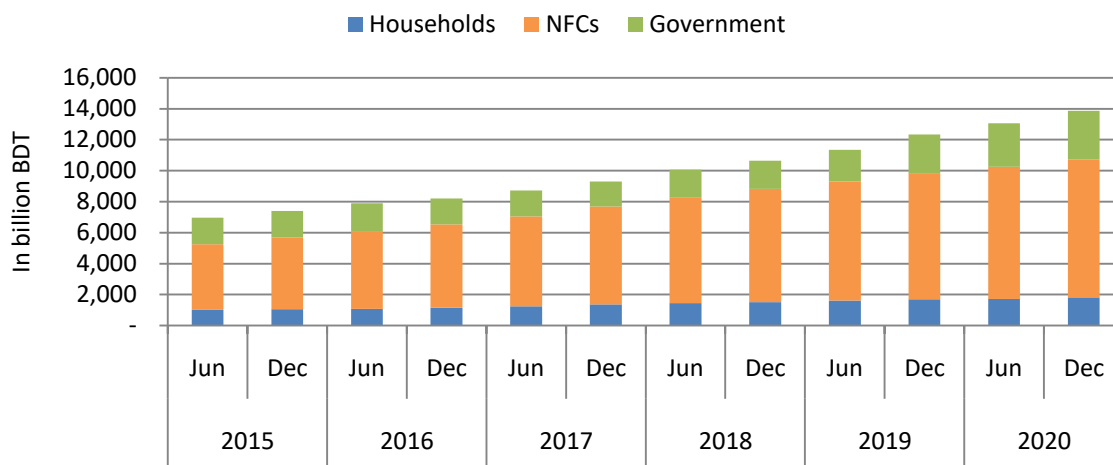
Source: DFIM, Bangladesh Bank.

Notes: Due to NBDCs' data unavailability, data of FIs were used which include both deposit takers and non-deposit takers. Data for December 2020 is provisional.

Growth of FIs' loans to housing sector showed a gradually decreasing trend since June 2019 and recorded further negative in the second half of 2020.

6. Inter-linkages– Cont'd.

6.5 Banks' loans to counterpart sectors

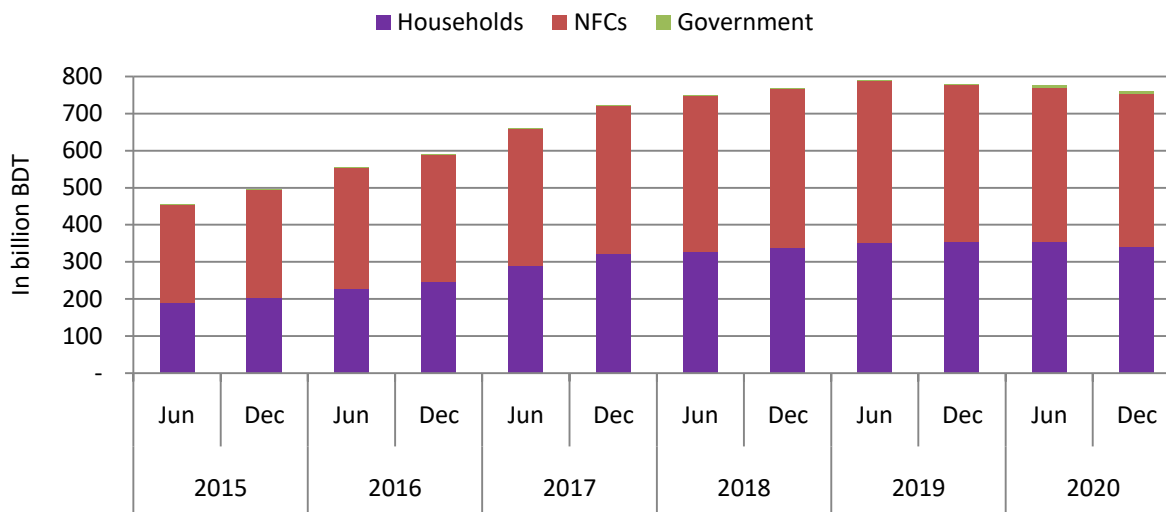


Source: Statistics Department, Bangladesh Bank.

Notes: Loans extended to households and NFCs refer to outstanding loans and advances excluding bills. Loans to government refer to gross amount.

Banks' exposures to its major public and private counterparts, led largely by private NFCs, continued its increasing trend.

6.6 NBDCs' loans to counterpart sectors



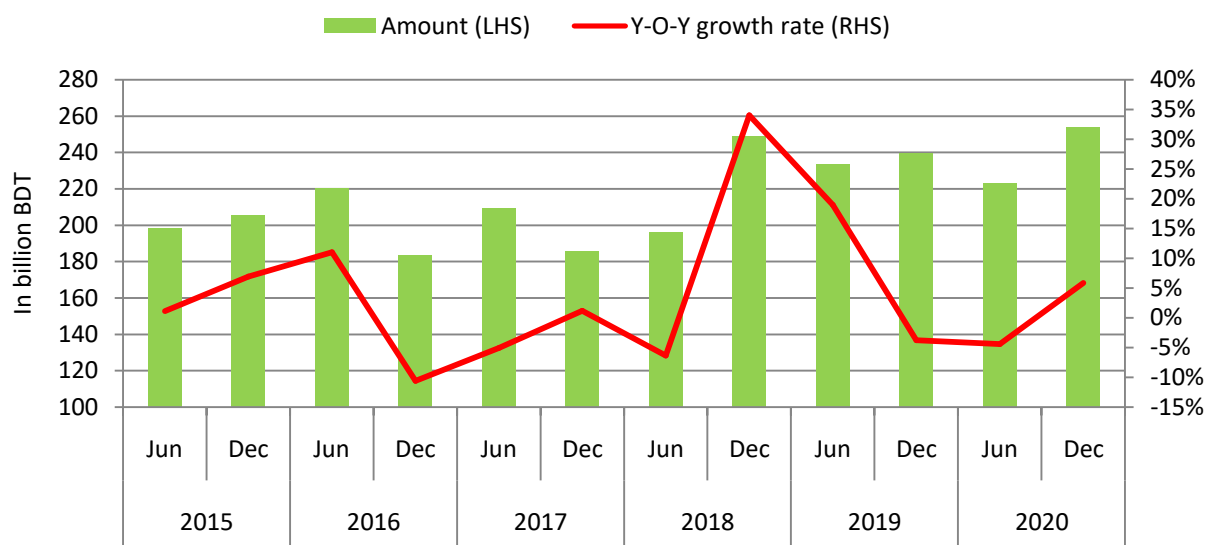
Source: Statistics Department, Bangladesh Bank.

Notes: Loans to government refer to gross amount. NBDCs include deposit taking FIs, Ansar-VDP Unnayan Bank, Karmasangsthan Bank, Grameen Bank and Bangladesh Samabaya Bank.

Decreased exposure to NFCs and households led the decrease in NBDCs' loan portfolio at end-December 2020 compared to the preceding period in which the government borrowing remained negligible.

6. Inter-linkages– Cont'd.

6.7 Banks' cross-border claims

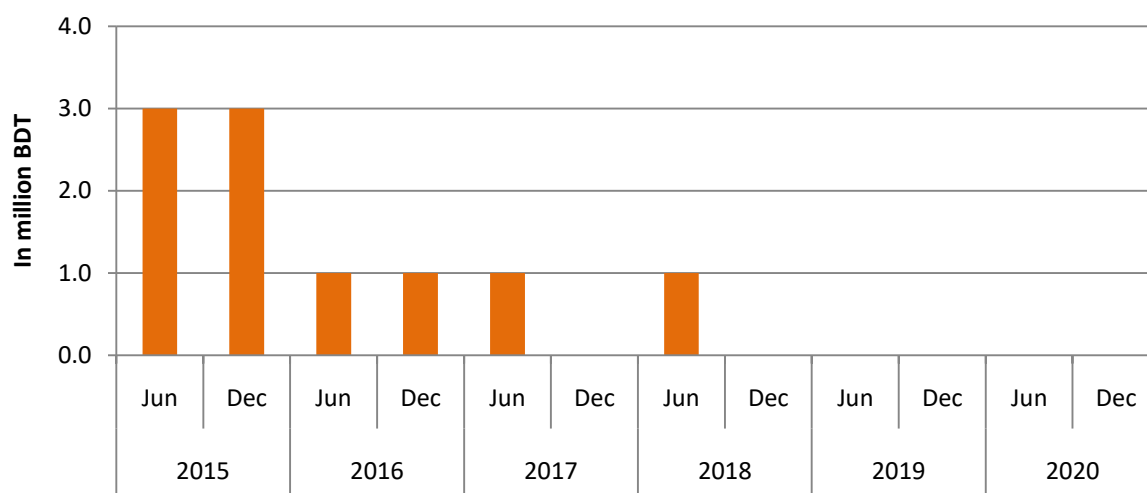


Source: Statistics Department, Bangladesh Bank.

Notes: Cross-border claims include foreign currency notes in hand, balances with banks abroad, bilateral trade credits, wage earners' balance abroad, foreign bills, foreign direct investment, portfolio investment.

Banks' cross-border claims, though increased at end-December 2020, remained low accounting for less than one percent of total assets of the banking sector.

6.8 NBDCs' cross-border claims



Source: Statistics Department, Bangladesh Bank.

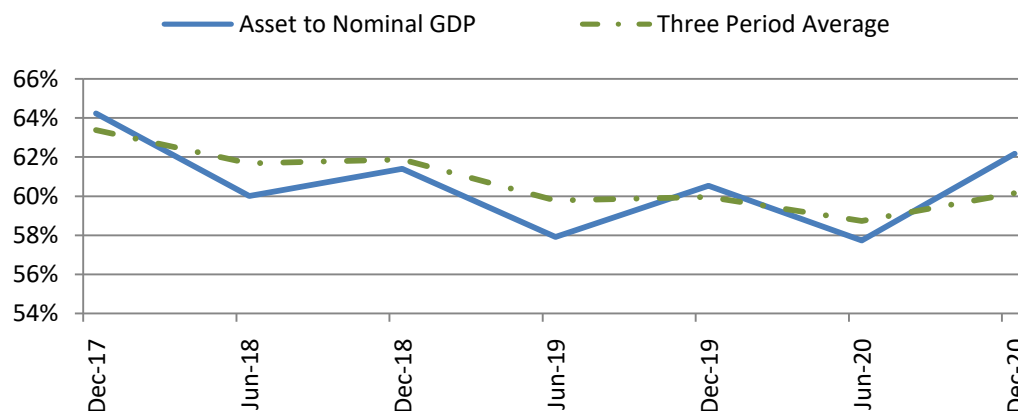
Notes: Claims include only foreign currency notes in hand. No other claims have been generated yet. NBDCs include deposit taking FIs, Ansar-VDP Unnayan Bank, Karma Sangsthan Bank, Grameen Bank and cooperative banks.

No NBDCs' cross-border claims were observed since December 2018.

7. Structural risk

7.1 Banking sector size

a. Domestic Banks

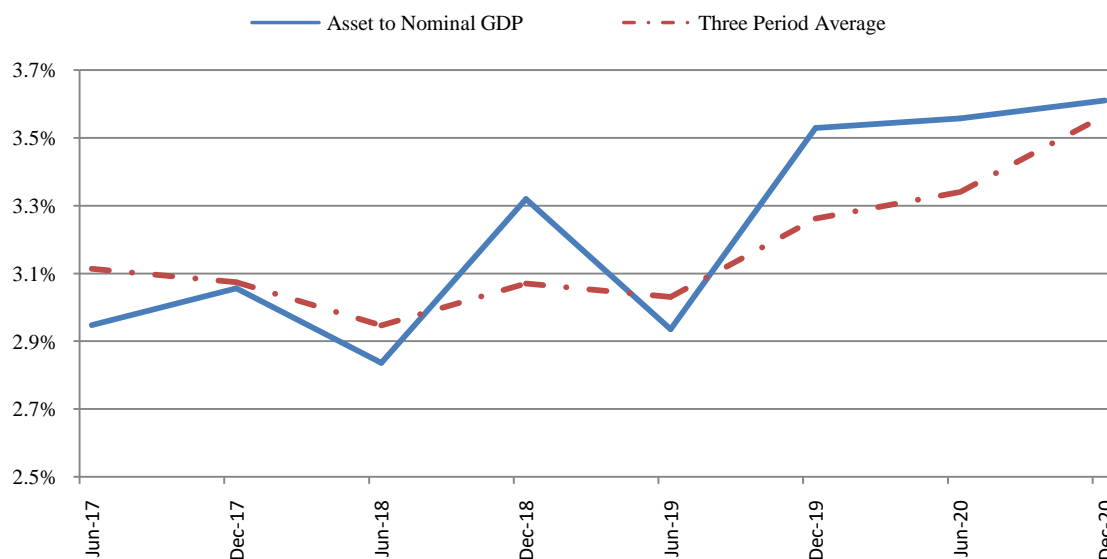


Source: DOS, BB and Monthly Economic Trends, BB; computation: FSD, BB.

Note: Ratio of domestic banks' total assets to Nominal GDP. As half yearly GDP is not calculated in Bangladesh, June based GDP data is used as a proxy for December in calculating this ratio.

Domestic banks' total assets to nominal GDP ratio, fluctuating over time, increased sharply in December 2020 compared to the position of both June 2020 and December 2019.

b. Foreign Banks



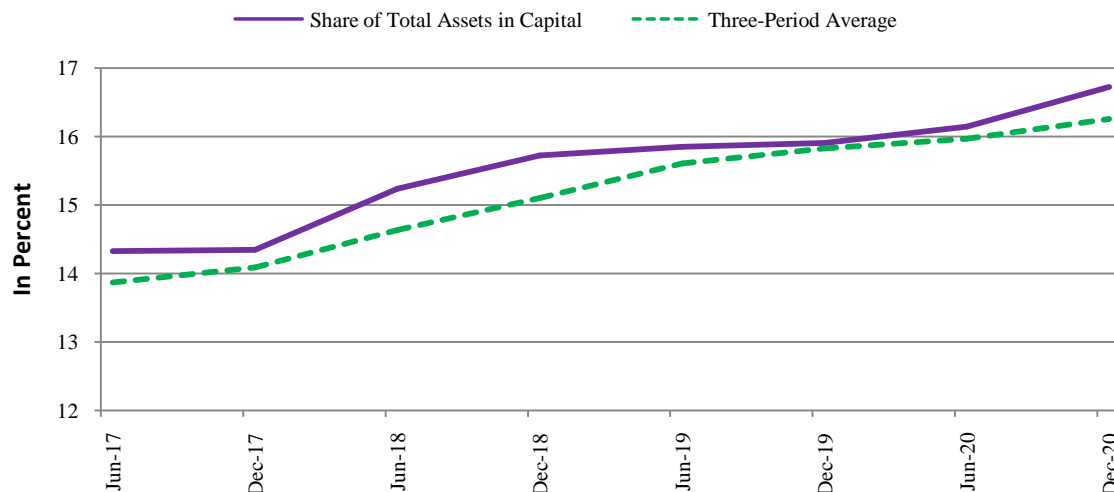
Source: DOS, BB and Monthly Economic Trends, BB; computation: FSD, BB.

Note: Ratio of foreign banks' total assets to Nominal GDP. As half yearly GDP is not calculated in Bangladesh, June based GDP data is used as a proxy for December in calculating this ratio.

Foreign banks' total assets to nominal GDP ratio increased slightly in December 2020 compared to the position of both June 2020 and December 2019.

7. Structural risk-cont'd.

7.2 Banking sector leverage



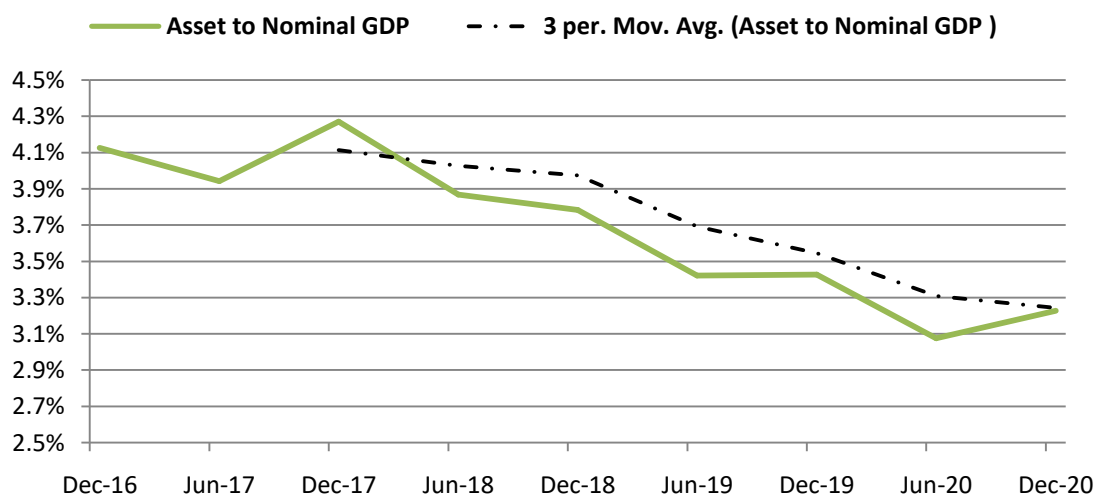
Source: DOS, BB; computation: FSD, BB.

Note: Leverage ratio is defined as total (on-balance sheet) asset of the banking sector to total (on-balance sheet) capital ratio.

Banking sector's total assets to capital ratio showed increasing trend over the last couple of years; the ratio increased slightly in December 2020 compared to that of June 2020.

7.3 Financial institutions (FIs) sector size

FIs' assets to nominal GDP



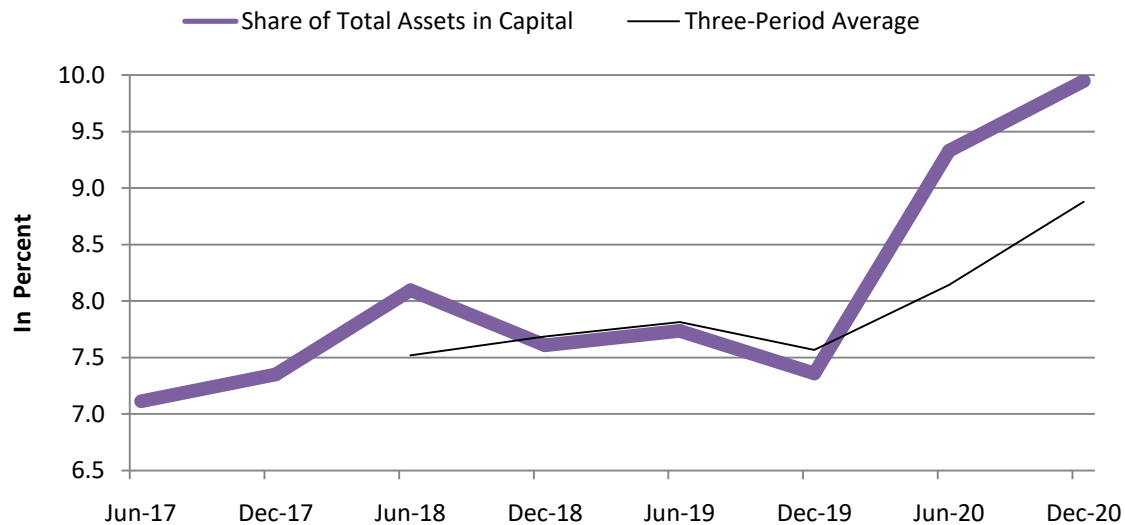
Source: Financial Institutions (for June and December 2020) and DFIM, BB (for earlier periods); computation: FSD, BB.

Note: As half yearly GDP is not calculated in Bangladesh, June based GDP data is used as a proxy for December in calculating this indicator.

Financial institutions' assets to nominal GDP increased slightly in December 2020 compared to June 2020.

7. Structural risk-cont'd.

7.4 Financial institutions (FIs) sector leverage



Source: Financial Institutions (for June and December 2020) and DFIM, BB (for earlier periods); computation: FSD, BB.
Note: Leverage ratio is defined as the total (balance sheet) asset of the FIs sector to total (balance sheet) capital ratio.

Financial institutions' total assets to capital ratio showed an upward trend since December 2019.

Annex to Bangladesh Systemic Risk Dashboard

1. Macro risk:

1.1 Current and forecasted real GDP growth

Sources: Monthly Economic Trends, Bangladesh Bank and World Economic Outlook Database, IMF.

Current real GDP growth is the latest actual financial year-on-year growth at constant market price. Average of three periods is the three-year moving average of GDP growth rate. Forecasted real GDP growth rate is taken from IMF's World Economic Outlook Database, April, 2020.

1.2 Current account balance-to-GDP ratio

Sources: Monthly Economic Trends, BB.

Current account balance represents the sum of the 6 months' current account balances. GDP is at current market price. Average of three periods is the three-period moving average of current account balance-to-GDP ratio.

1.3 Aggregate Debt-to-GDP ratio

Sources: Monthly Economic Trends, BB and National Summary Data Page (NSDP)-Bangladesh.

The aggregate debt as percentage of GDP represents the sum of the debt-to-GDP ratio of Non-Financial Corporations (NFC), Government (net), households and external debt (gross).

1.4 Government debt-to-GDP ratio

Sources: Monthly Economic Trends, BB and National Summary Data Page (NSDP)-Bangladesh.

Government debt includes both government's domestic debt and external debt. Average of three periods represents three-period moving average of the government debt-to-GDP ratio.

1.5 Government deficit-to-GDP ratio

Sources: Monthly Report on Fiscal Position, Ministry of Finance, Government of Bangladesh.

The government deficit-to-GDP ratio is shown as both deficits excluding grants and including grants to nominal GDP.

1.6 Household debt-to-gross disposable national income ratio

Sources: Monthly Economic Trends, BB.

Claims on other resident sector have been classified as Household's debts. The resident sector has been classified according to the IMF's Monetary and Financial Statistics Manual (MFSM). Claims on resident sector exclude BB and ODCs (other depository corporations). Household debt-to-gross disposable national income ratio represents resident sector loans as a ratio of gross disposable national income over the financial year.

1.7 NFC debt-to-GDP ratio

Sources: Monthly Economic Trends, BB.

Debts of both public non-financial corporations and private non-financial corporations are considered for deriving non-financial corporations' debt. Public non-financial corporations are corporations owned or controlled by the Government that produce goods or services for sale to the public at a significant market price whereas private non-financial corporations encompass corporations and quasi corporations engaging primarily in the production of goods and non-financial services for sale to the public at a significant market price (profit motive).

2. Credit Risk:

2.1 Annual growth rate of banks' loans to households

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by banks to domestic households (individual customers); it excludes bills purchased and discounted.

2.2 Annual growth rate of NBDCs' loans to households

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by non-bank depository corporations (NBDCs) to domestic households; NBDCs include depository financial institutions (FIs), Ansar-VDP Unnayan Bank, Karmasangsthan Bank, Grameen Bank and Bangladesh Samabaya Bank.

2.3 Annual growth rate of banks' loans to private NFCs

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by banks to private non-financial corporations (NFCs); it excludes bills discounted and purchased.

2.4 Annual growth rate of NBDCs' loans to private NFCs

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by NBDCs to private NFCs.

2.5 Provision maintenance ratio of banks

Source: Banking Regulation and Policy Department, Bangladesh Bank.

It refers to the ratio of loan-loss provision maintained by banks against their required provision.

2.6 Provision maintenance ratio of FIs

Source: Department of Financial Institutions and Market, Bangladesh Bank.

It refers to the ratio of loan-loss provision, maintained by FIs, against their required provision; due to unavailability of data of all NBDCs, provision maintenance ratio of FIs was used as FIs constitute the majority of NBDCs.

2.7 Changes in banks' interest rates for housing loans

Source: Bangladesh Bank website (<https://www.bb.org.bd/fnansys/interestlending.php>).

It refers to the net percentage change in credit standards for housing loans by banks; changes in banks' announced interest rate for housing loans have been used as a proxy for changes in banks' credit standards; net percentage change is the difference between the share of banks reporting that interest rates have been tightened (increased) and the share of banks reporting that they have been eased (decreased).

3. Funding and liquidity risk:

3.1 Bangladesh Bank's liquidity support to banks

Sources: Debt Management Department, BB.

Bangladesh Bank's liquidity support comprises Repo, assured liquidity support and special repo. Repo facilities are provided on an overnight (one-day) or 7, 14 and 28-day basis to the banks and NBFIs to resolve the temporary liquidity problem as well as to increase the money supply in the economy. BB also provides ALS facilities to the PDs against govt. securities received from the auction up to 60 days from the date of issuance for the same purpose. Furthermore, BB provides a special liquidity facility under the Special Repo for special purposes.

3.2 Banks' advance-to-deposit ratio

Sources: Department of Off-site Supervision, BB.

It refers to the ratio between total outstanding loans and total deposits of bank clusters/banking industry.

3.3 Maturity profile of govt.'s outstanding debt securities (treasury bills, treasury bonds)

Sources: Debt Management Department, BB.

The maturity profile refers to the residual maturity of long-term and short-term debt securities issued by the Government of Bangladesh. Banks' long-term debt includes government Treasury bond with a maturity of more than 12 months. Banks' short-term debt includes government Treasury bill with a maximum maturity of 12 months. Data are based on amounts outstanding at the end of the corresponding year or month.

3.4 Subordinated debt

Sources: Department of Off-site Supervision, BB.

The subordinated debt refers to the debt instruments which will be subordinated to deposits and other liabilities of the bank. It implies that the claims of the subordinated debt holders will be junior to the claims of the depositors and the other creditors.

4. Market risk:

4.1 Equity indices

Sources: Dhaka Stock Exchange Website (<http://www.dsebd.org>)

The equity indices displayed are DSEX, DSE30 and DSES. DSEX is considered as the benchmark general index of the market as it shows the exact price movement of the listed companies. As for DSE30, 30 companies based on profitability, market capitalization and share size were selected, with the companies changed every six months on the basis of performance. DSES index is launched for people and institutions willing to invest in Shari'ah-compliant securities and products.

4.2 Price/earnings ratio of equity indices

Sources: Dhaka Stock Exchange Website (<http://www.dsebd.org>).

This ratio refers to the ratio between market price per share and earnings per share. Sectoral P/E ratio includes P/E ratio of Banks, Financial Institutions, Mutual Funds, Engineering, Food & Allied, Fuel & Power, Jute, Textile, Pharmaceuticals, Paper & Printing, Service & Real Estate, Cement, IT, Tannery, Ceramic, Insurance, Telecommunication, Travel and Leisure, Miscellaneous and Market P/E.

4.3 Weighted average call money market rates

Source: Monthly Economic Trends, BB.

The indicators reflect the nature of money market and include rate charged against exposures of scheduled banks and FIs with one another.

4.4 Scheduled banks' weighted average interest rate on deposits and advances

Source: Monthly Economic Trends, BB.

The indicators reflect the condition of scheduled banks and show the difference between average return received from advances and average rate paid on deposits.

4.5 Weighted average exchange rate (BDT/USD)

Source: Monthly Economic Trends, BB.

The indicator reflects the exchange rate movement in BDT per US Dollar.

5. Profitability and solvency risk:

5.1 Banks' profitability indicators

a. Return on equity (ROE)

Source: Department of Off-site Supervision, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio between profit/loss for the period and total equity. Ratios of June period are annualized.

b. Return on assets (ROA)

Source: Department of Off-site Supervision, BB; computation: Financial Stability Department, BB.

The indicator is based on ratio between profit/loss for the period and total assets. Ratios of June period are annualized.

c. Cost to income ratio

Source: Department of Off-site Supervision, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio between operating expenses and operating income.

d. Net interest income to total operating income ratio

Source: Department of Off-site Supervision, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio between net interest income and total operating income.

5.2 Banks' solvency indicators

a. Tier-1 capital to risk-weighted assets ratio

Source: Department of Off-site Supervision, BB.

The indicator is based on the ratio between Tier-1 capital and total risk-weighted assets.

b. Gross non-performing loan (NPL) ratio

Source: Banking Regulation and Policy Department, BB.

The indicator is based on the ratio between non-performing loans and advances to total outstanding loans and advances.

5.3 FIs' profitability indicators

a. Return on equity (ROE)

Source: Department of Financial Institutions and Market, BB.

The indicator is based on the ratio between profit/loss after tax and provision for the period and total equity at the end of the corresponding period. Ratios of each period are annualized.

b. Return on assets (ROA)

Source: Department of Financial Institutions and Market, BB.

The indicator is based on ratio between profit/loss after tax and provision for the period and total assets at the end of the corresponding period. Ratios of each period are annualized.

c. Cost to income ratio

Source: Department of Financial Institutions and Markets, BB.

The indicator is based on the ratio between FI's operating expenses and operating income.

d. Net interest income to total operating income ratio

Source: Department of Financial Institutions and Markets, BB.

The indicator is based on the ratio between net interest income and total operating income.

5.4 FIs' solvency indicators

a. Tier-1 capital to risk-weighted assets ratio

Source: Department of Financial Institutions and Markets, BB.

The indicator is based on the ratio between Tier-1 capital (core capital) and total risk-weighted assets.

b. Gross non-performing loan (NPL) ratio

Source: Department of Financial Institutions and Markets, BB.

The indicator is based on the ratio between non-performing loans and leases to total loans and leases.

6. Inter-linkages:

6.1 Growth of banks' credit (gross) to Government

Source: Statistics Department, Bangladesh Bank.

It refers to gross loan amount extended by banks to the Government.

6.2 Growth of NBDCs' credit (gross) to Government

Source: Statistics Department, Bangladesh Bank.

It refers to gross loan amount extended by NBDCs to the Government sector.

6.3 Growth of banks' loans to housing sector

Source: Statistics Department, Bangladesh Bank.

Loans to residential housing refers to loans extended by banks for residential housing in urban and rural areas, house renovation/repairing/extension, flat and land purchase; loans to commercial housing refers to loans extended by banks for commercial building and housing by developers/contractors.

6.4 Growth of FIs' loans to housing sector

Source: Department of Financial Institutions and Markets, Bangladesh Bank.

It refers to loans extended by FIs for both residential and commercial purposes; due to unavailability of data of all NBDCs, FIs' loans to housing sector was used as FIs constitute the majority of the NBDCs.

6.5 Banks' loans to counterpart sector

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by banks to their three major institutional counterparts namely NFCs (both private and public), households and government; it excludes bills discounted and purchased.

6.6 NBDCs' loans to counterpart sector

Source: Statistics Department, Bangladesh Bank.

It refers to loans extended by NBDCs to their three major institutional counterparts namely NFCs (both private and public), households and government.

6.7 Banks' cross-border claims

Source: Statistics Department, Bangladesh Bank.

Cross-border claims of banks include foreign currency notes in hand, balances with banks abroad, bilateral trade credits, wage earners' balance abroad, foreign bills, foreign direct investments, portfolio investments and advances to non-residents; claims that are granted or extended to non-residents are referred to as cross-border claims on an “immediate borrower” basis i.e. claims allocated to the actual non-resident borrowers with whom the original risk lies; it differs from “ultimate risk” basis which refers to claims allocated to the non-resident guarantors (of the non-resident borrower) with whom the final risk lies. For more details, see “Guidelines to the international consolidated banking statistics” available at http://www.bis.org/statistics/consbankstatsguide_old.pdf.

6.8 NBDCs' cross-border claims

Source: Statistics Department, Bangladesh Bank.

Cross-border claims of NBDCs include only foreign currency notes in hand.

7. Structural risk:

7.1 Banking sector size

a. Domestic Bank

Source: Department of Off-site Supervision, BB and Monthly Economic Trends, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio of total assets of domestic scheduled banks to nominal GDP; domestic scheduled banks include all scheduled banks except foreign commercial banks.

b. Foreign Bank

Source: Department of Off-site Supervision, BB and Monthly Economic Trends, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio of total assets of foreign commercial banks to nominal GDP.

7.2 Banking sector leverage

Source: Department of Off-site Supervision, BB; computation: Financial Stability Department, BB.

The indicator is based on the ratio of total assets of the banking sector over its capital.

7.3 FI sector size

Source: Financial Institutions (for June and December 2020) and DFIM, BB (for earlier periods); computation: FSD, BB.

The indicator is based on the ratio of total assets of financial institutions (FIs) to nominal GDP.

7.4 FI sector leverage

Source: Financial Institutions (for June and December 2020) and DFIM, BB (for earlier periods); computation: FSD, BB.

The indicator is based on the ratio of total assets of the FIs sector over its capital.

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